

The getKanban Board Game

v5.0

Welcome to the getKanban Board Game!

This slide deck is available for download at www.getkanban.com

This deck contains animations, so it is best viewed in Slide Show mode rather than edit mode (play it rather than edit it).

If you are new to the game and will be facilitating it, start by reading the [Facilitator's Guide](#).

If you are playing the game (someone else is facilitating) please skip ahead to [Game Instructions](#).

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Facilitator's Guide

Hello Facilitator

Before facilitating the game with a group you should read through this slide deck, familiarize yourself with the physical components of the game, and run through the game by yourself.

The instructions are very prescriptive to avoid ambiguity as you are starting out. If you facilitate the game often, you may wish to modify the startup procedure and rules to your own taste. Feel free to modify this deck for your own use.

You should allow at least 2 ½ hours to play the game, and longer if you choose to discuss the advanced discussion topics during the game, and/or debrief at the end of it.

Please don't hesitate to contact us if you need any assistance with the game, or to make suggestions for improvement.

Kind regards

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Wellington, New Zealand
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Facilitator's Guide Contents

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Teams

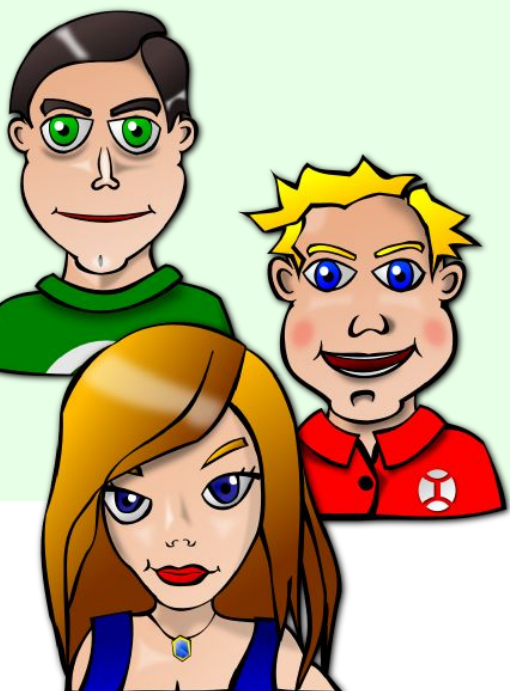
The game is designed to be played by a team of people. It involves frequent decision making, and can sometimes suffer from lengthy analysis.

To counter this, it is best when multiple teams play at the same time. You can enhance the competition by either offering a bonus for the first team to finish (as shown at the end of Game Instructions) or by setting a fixed time at which game play must stop.

The ideal team size is about six players. There are five specific roles that some players will take. These roles require the attention of the people playing them, so it is good to have one or two players to operate the board.

If there are less players than roles, players may take on multiple roles, or they may choose not to track some of the charts.

Be careful not to have too many people on a team. If there are more than eight players per team, some people may disengage.



Approach

Set up kits

Ensure that any dry-erase markings left on the board, charts, and tickets from previous games are removed. Set up the game kits as shown in Setup later in this deck.

Important: include only two (not four) green dice when setting up the game kits. The teams will request the third green die on Day 14 of the game, and may request the fourth on Day 18.

Hand out only ticket Set 1 (see the set name on the right-hand-side of the ticket). Do not hand out the other ticket sets. The teams will request these items during the game.

The items that are not handed out at the start of the game are kept in the little black bag with silver lettering. You may find this inside the clear plastic cinch bag, so please remove it before handing out the game kits to the teams.

Present instructions and Day 9

Start presenting from the beginning of the [Game Instructions](#) section of this slide deck. The instructions include a facilitator-led walkthrough of Day 9. This is the most effective way to start up the game, since players learn by doing. All of the decisions are made already, including the dice rolls, and which tickets to pull in. This enables you to compare the teams' boards at the end of Day 9 with the illustrations provided in the slides, to confirm that the teams have played correctly.

As you step through Day 9, the teams learn the rules of the game in detail. This enables them to play the rest of the game without needing to ask a lot of questions.

Play the game

After you walk the teams through Day 9, they will play on their own. They should be able to play almost unaided, though there will be some questions, so it is important that you understand the game fully before facilitating it. It is best if you have played it yourself first.

Approach

Facilitation tips

- Make sure you are familiar with the Frequently Asked Questions section, provided on the same sheet as the Project Manager's Daily Steps guide.
- Day 12 is the first time that teams play through the end of a billing cycle on their own. Pay close attention to ensure that they read and follow the Project Manager's Daily Steps guide accurately and in order, and that the charts are tracked properly.
- Check regularly to make sure that the *Day Selected* and *Day Deployed* fields are updated on the tickets.
- Full instructions for completing the charts are provided in the instruction booklet. Make sure that you understand how each chart is tracked, since this is where teams need the most help, especially the CFD Tracker.
- When ticket I2 is deployed, players may ask which tickets the outcome is applied to. The answer is: *all tickets in the whole game with any test work remaining. This includes tickets still in Options, any tickets that have not finished Testing, and any tickets that are subsequently introduced.* This answer is not provided in the Frequently Asked Questions (because the answer should not be known before the ticket is deployed).

The Expedite Lane

As described on the board, the Expedite Lane may be used for white Expedite tickets, or for orange Fixed Delivery Date tickets if they are due in less than three days.

There is a WIP limit on the Expedite Lane, which is initially set to 1, but which may be changed by the team at the standup meeting. The WIP limits of the main columns of the board do not apply to the Expedite Lane. Only the WIP limit on the Expedite Lane applies to it.

End of game and debrief

There is a debrief section at the end of this slide deck. It is long, so don't try to cover everything. You might want to choose questions beforehand, and perhaps add some of your own.

Clean off dry-erase

Be sure to clean all dry-erase markings from the boards, charts, and tickets. The last Event Card of the game asks the teams to do this for you. These items are dry-erase treated, and designed to be written on, but when markings are left to dry they become difficult to remove. Old markings may be removed with white-board cleaner and a cloth if necessary, but this may shorten the life of the board if done repeatedly.

Caveats

1. The Kanban board used is an example board, not “the definitive Kanban board.” Each Kanban system should be designed for the context within which it is to be used, and should evolve and improve over time.
2. The game uses resource allocation exclusively to address bottlenecks. This is to keep the game simple. In reality, flow problems will need to be analyzed for root cause and addressed appropriately. For example, it may be that quality at an upstream station is poor, and needs to be addressed.
3. The real power of Kanban is that it exposes impediments to flow, enabling us to do something about them. Without this appreciation, there is a risk that people understand the mechanism, but gain limited value from it.
4. The activities of rolling dice, striking off work, tracking charts etc are overhead that does not exist when using Kanban in real work. There are software tools available, and we don't usually roll dice to get our jobs done!
5. Kanban does not require that work remaining on individual items is burned down (as it is on the tickets in the game) or reported, neither does it stop you doing this.
6. In the game we allow teams to pull tickets downstream (as long as WIP limits are not exceeded) in order to make room upstream to pull tickets. In a real Kanban system, we would prefer not to do this. Instead work should be pulled downstream by those who will work on it next. Loosening this practice for the game helps the game run more smoothly.

These points are mentioned to avoid the specific mechanics of the game being copied into real-world Kanban system designs.

Game Kit Contents: Bags

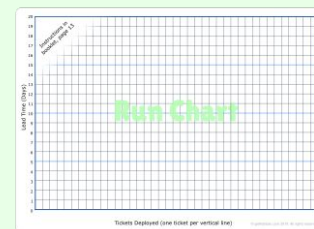
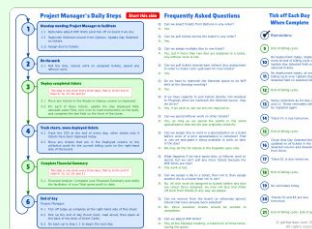
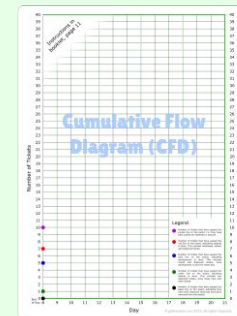
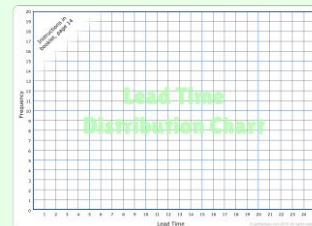
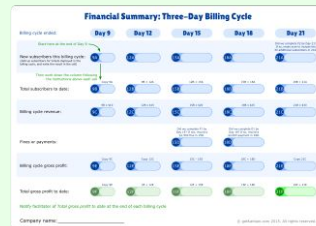
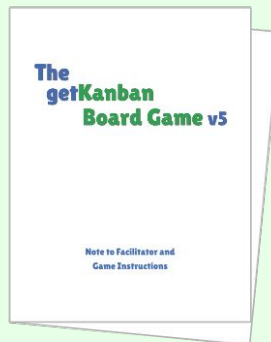
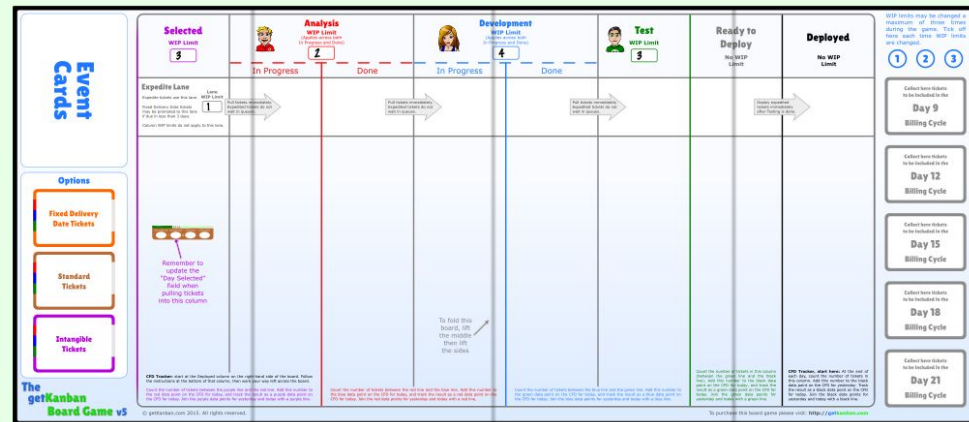


One game kit includes one document sleeve, one clear cinch bag, and one small cloth bag, each with contents. A carry bag is provided, and may contain multiple kits.

The small black cloth bag is packed inside the clear cinch bag so that it doesn't get lost.

Make sure to remove the small cloth bag before handing kits to the teams to play, since the items in it should not be available to the team at the start of the game.

Game Kit Contents: Document Sleeve



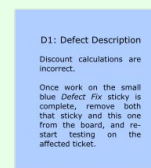
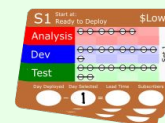
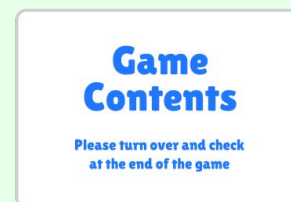
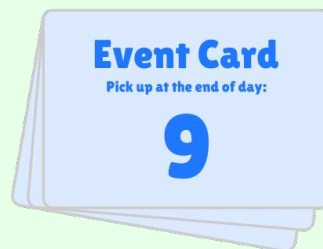
The document sleeve contains: game board, 2 x instruction booklets, Financial Summary sheet, Lead Time Distribution Chart, Cumulative Flow Diagram, Project Manager's Daily Steps guide, Run Chart.

The game board has a "W" fold, in that the center and two sides are raised to fold it.

Game Kit Contents: Clear Cinch Bag

The clear cinch bag contains:

- 13 Event Cards, sorted: Day 9–21
- 1 Game Contents card
- Tickets, Set 1 only:
 - F1–2, S1–18, I1–3
- Dry-erase markers:
 - 6 black, 2 brown, 2 purple,
 - 1 red, 1 green, 1 orange, 1 blue
- Pink blocker stickies
- Blue Defect Description stickies
- Blue Defect Fix stickies
- Dice: 1 pink, 3 blue, 2 red, 2 green
- 6 cloths

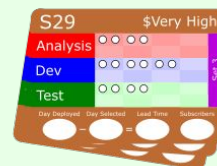
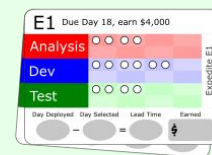
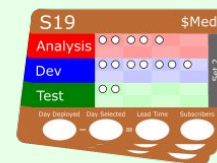


Game Kit Contents: Small cloth bag

The small cloth bag contains:

- Tickets:
 - Set 2: S19–28
 - Set 3: S29–33
 - Expedite: E1–2
- Dice: 2 green

Important: Ensure that this bag with its contents is not handed to the teams at the beginning of the game. These items will be requested by the teams during the game.



The getKanban Board Game v5.0

Setup

Prepare a visible scoreboard

Team Name \ Billing Cycle End	Day 9	Day 12	Day 15	Day 18	Day 21

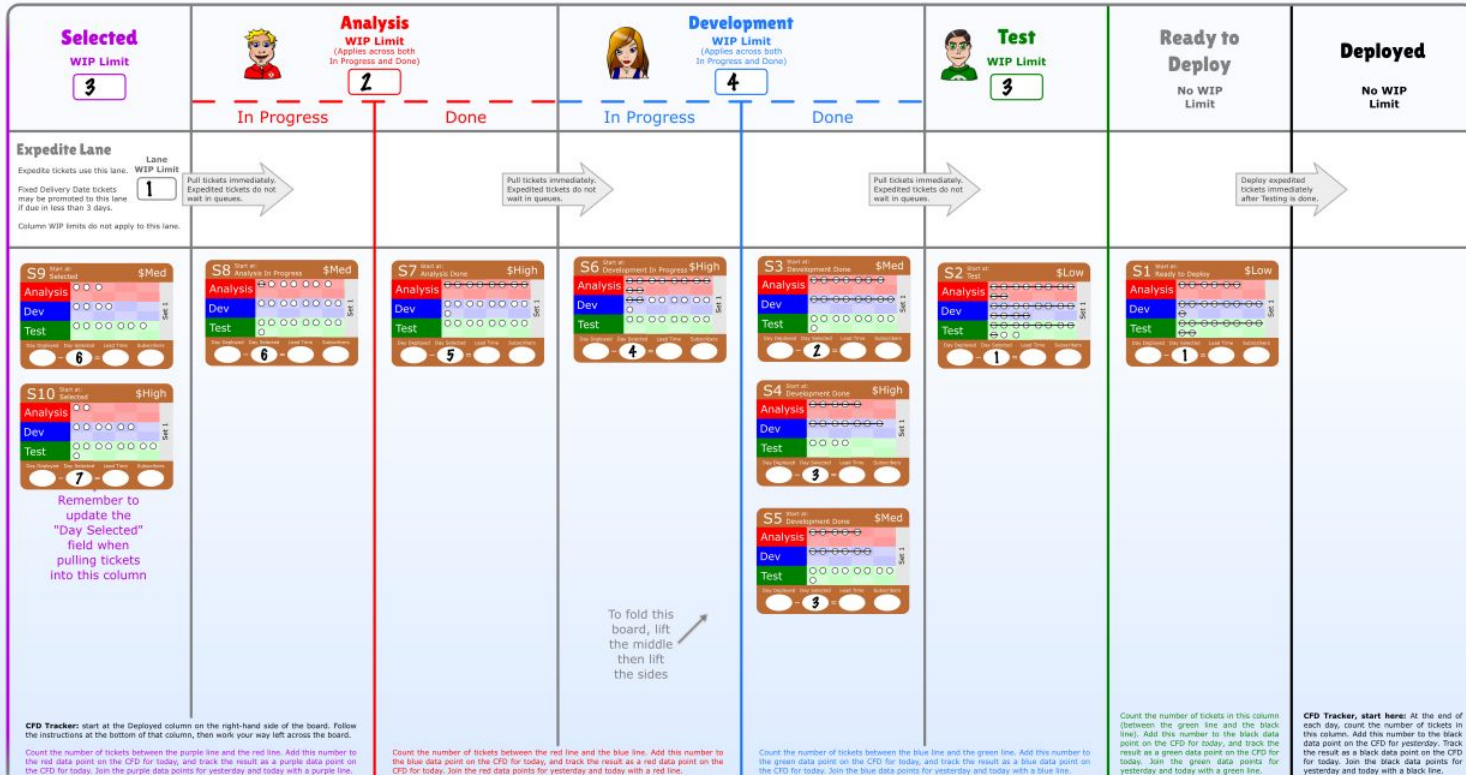
Set up the Board



9

Event Card
Pick up at the end of day:

Options



WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9
Billing Cycle

Collect here tickets to be included in the
Day 12
Billing Cycle

Collect here tickets to be included in the
Day 15
Billing Cycle

Collect here tickets to be included in the
Day 18
Billing Cycle

Collect here tickets to be included in the
Day 21
Billing Cycle

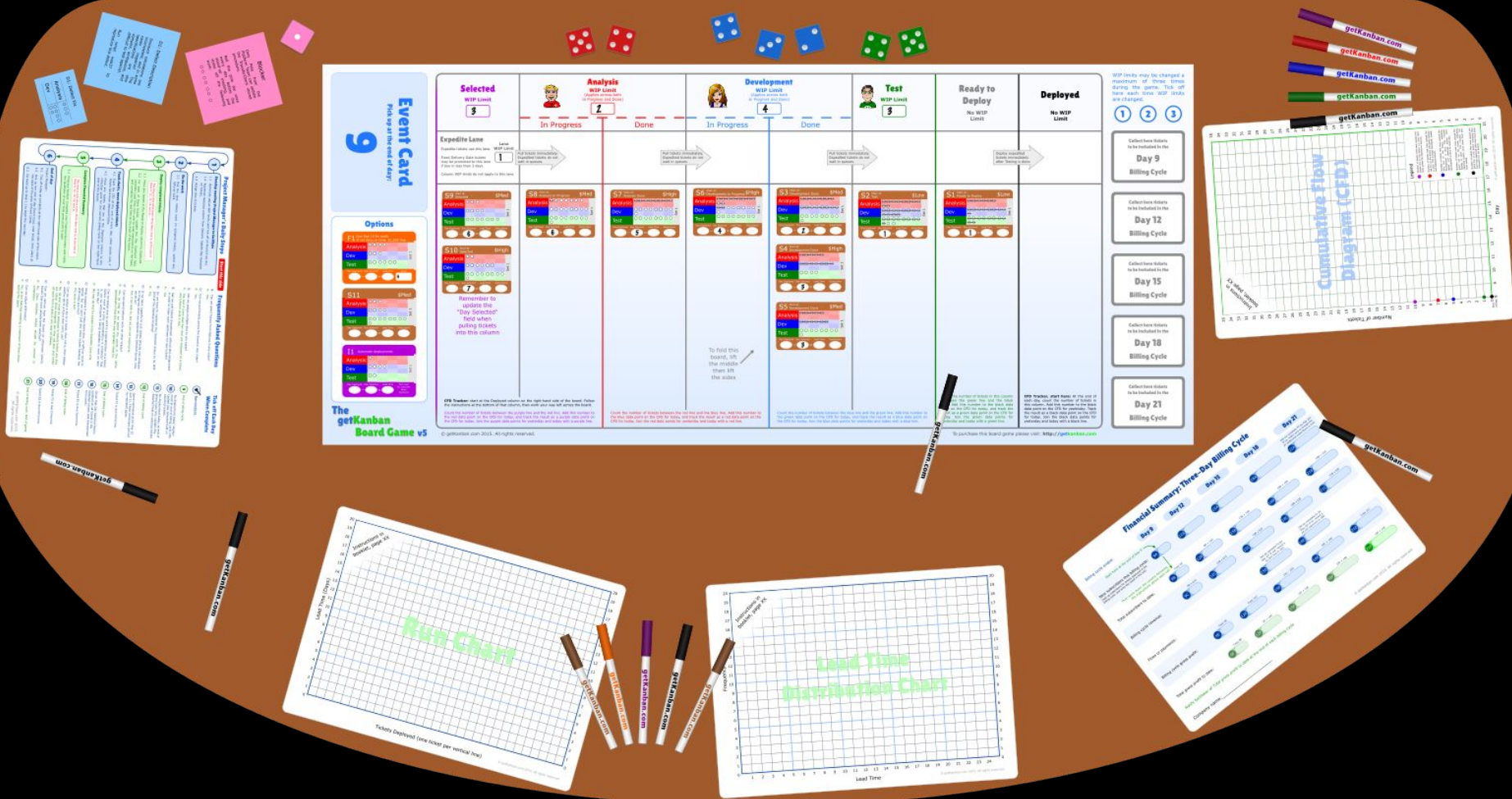
To purchase this board game please visit: <http://getkanban.com>

Set up each board as shown. Place tickets S1 – S10 in the column indicated “Start at” on the ticket. For example, S1 starts at Ready to Deploy:

S1 Start at: Ready to Deploy \$Low

Stack remaining tickets in their designated areas in the Options section at the left of the board.

Lay out the remaining components



Lay out the components of the game as shown.

Ensure that the correct color marker pens are placed with the correct charts.

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Game Instructions

Background and Objective

- Each team is a software company
- Your company makes a web application with a subscription-based revenue model
- The more subscribers you attract, the more money you make
- Your goal is to maximize profit

Background and Objective

- You increase your application's capabilities by deploying new features
- New features attract new subscribers
- Your company has a three-day billing cycle: you bill your subscribers at the end of each billing cycle, on Days 9, 12, 15, 18, and 21
- To save startup time, we begin the game on Day 9 of a project already underway

Roles

There are five specific roles
which we will now describe.

Then you will nominate
people to fill them.

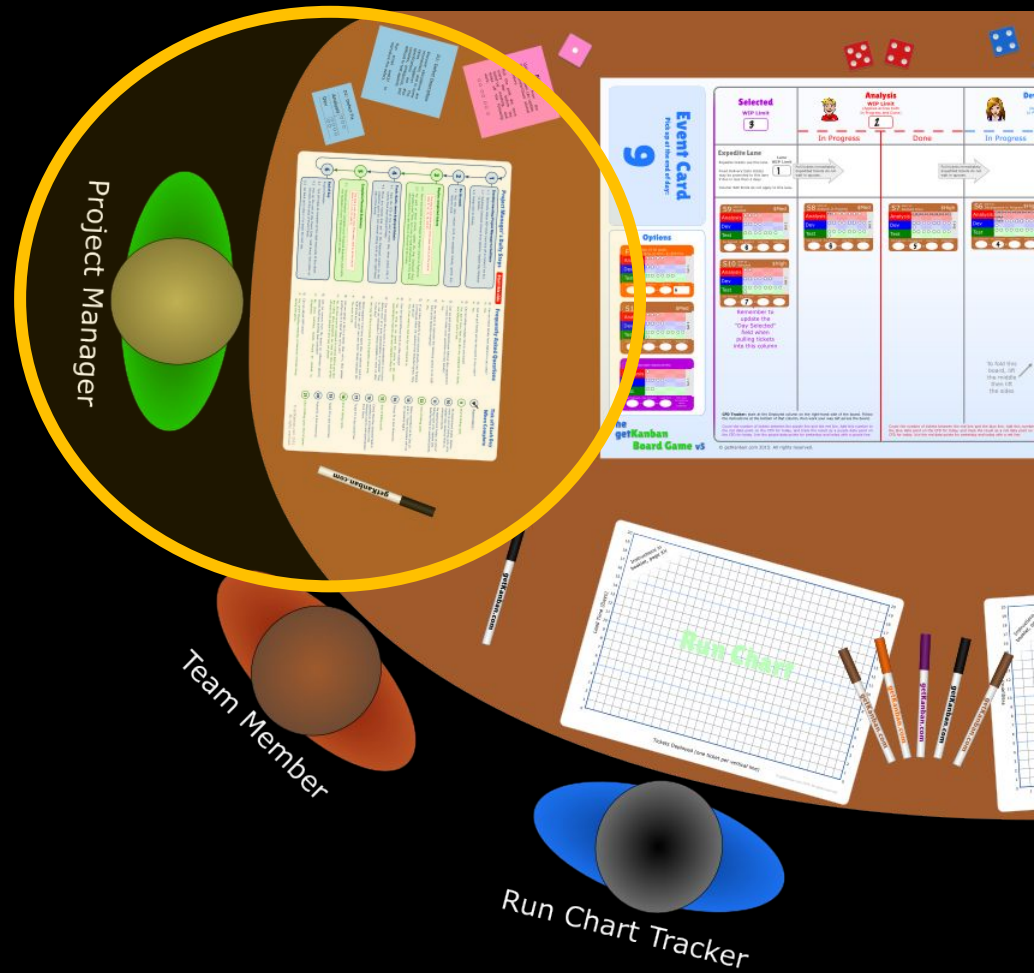
Roles: Project Manager

The Project Manager should be confident to read aloud with a **booming voice** so all the team can hear. No quiet or mumbling Project Managers please!

The PM should be seated to the left of the board, as shown. Her job is to coordinate the team using the Project Manager's Daily Steps guide, and get the team through the game as quickly as possible.

The PM will need the:

- Project Manager's Daily Steps guide
- pad of pink Blocker sticky notes
- pink die
- pad of blue Defect Descriptions
- pad of blue Defect Fixes.



Roles: CFD Tracker

Project Manager



CFD Tracker

Team Member

Run Chart Tracker

Lead Time Distribution
Chart Tracker

Financial Analyst

Tracking the Cumulative Flow Diagram (CFD) is the most difficult role in the game.

The CFD Tracker should be confident with numbers and charts. He should be seated to the right of the board, since he will be processing tickets as they are deployed.

The CFD Tracker will need the Cumulative Flow Diagram, and the following colored marker pens: black, green, blue, red, and purple.

Roles: Run Chart and Lead Time Distribution Chart Trackers

Project Manager

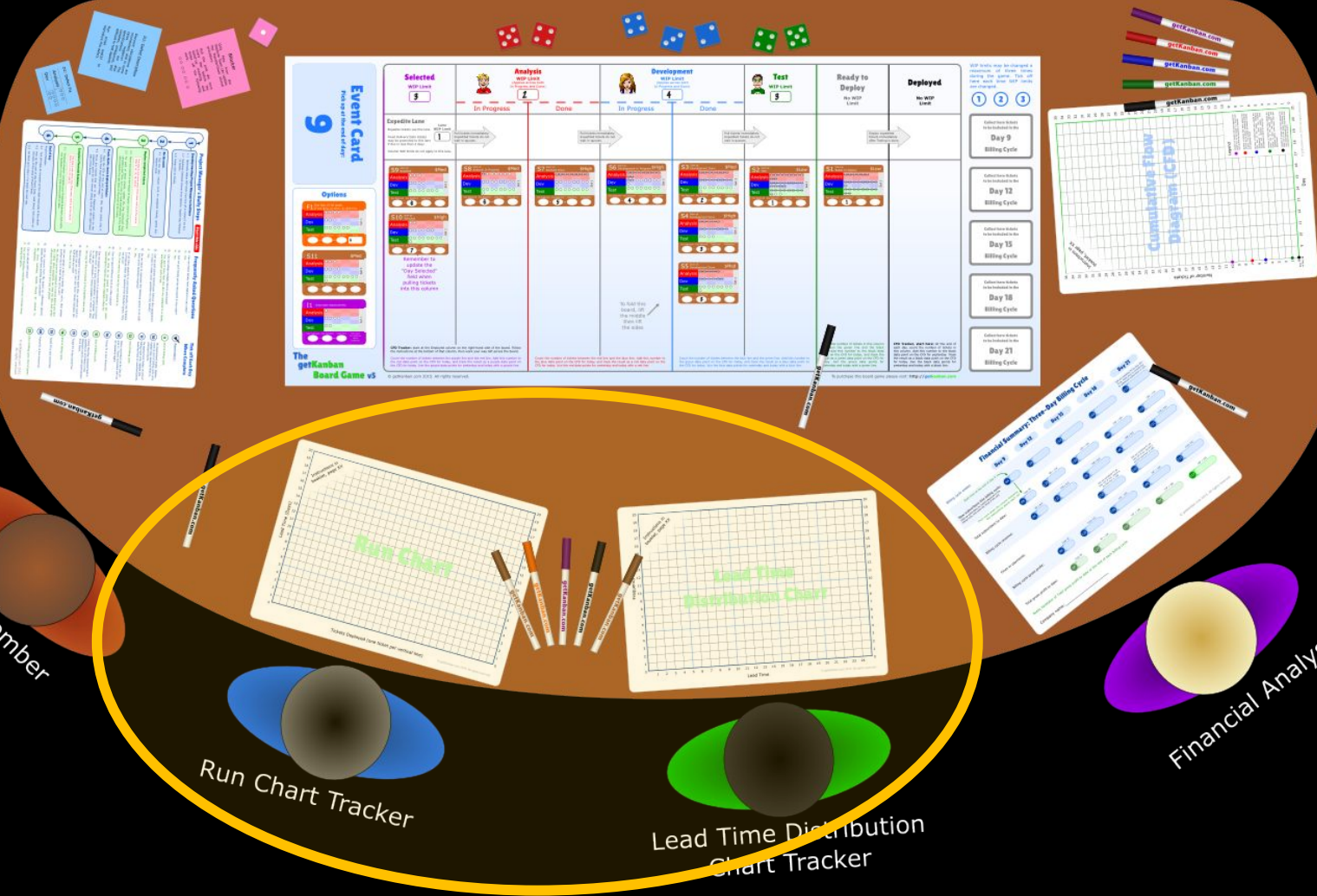
CFD Tracker

Team Member

Financial Analyst

Run Chart Tracker

Lead Time Distribution Chart Tracker



The Run Chart Tracker and Lead Time Distribution Chart Tracker roles are not so difficult, but confidence with charts will be useful.

The people filling these roles will need the respective charts and will share four marker pens: black, orange, purple and 2 x brown.

Roles: Financial Analyst

Project Manager

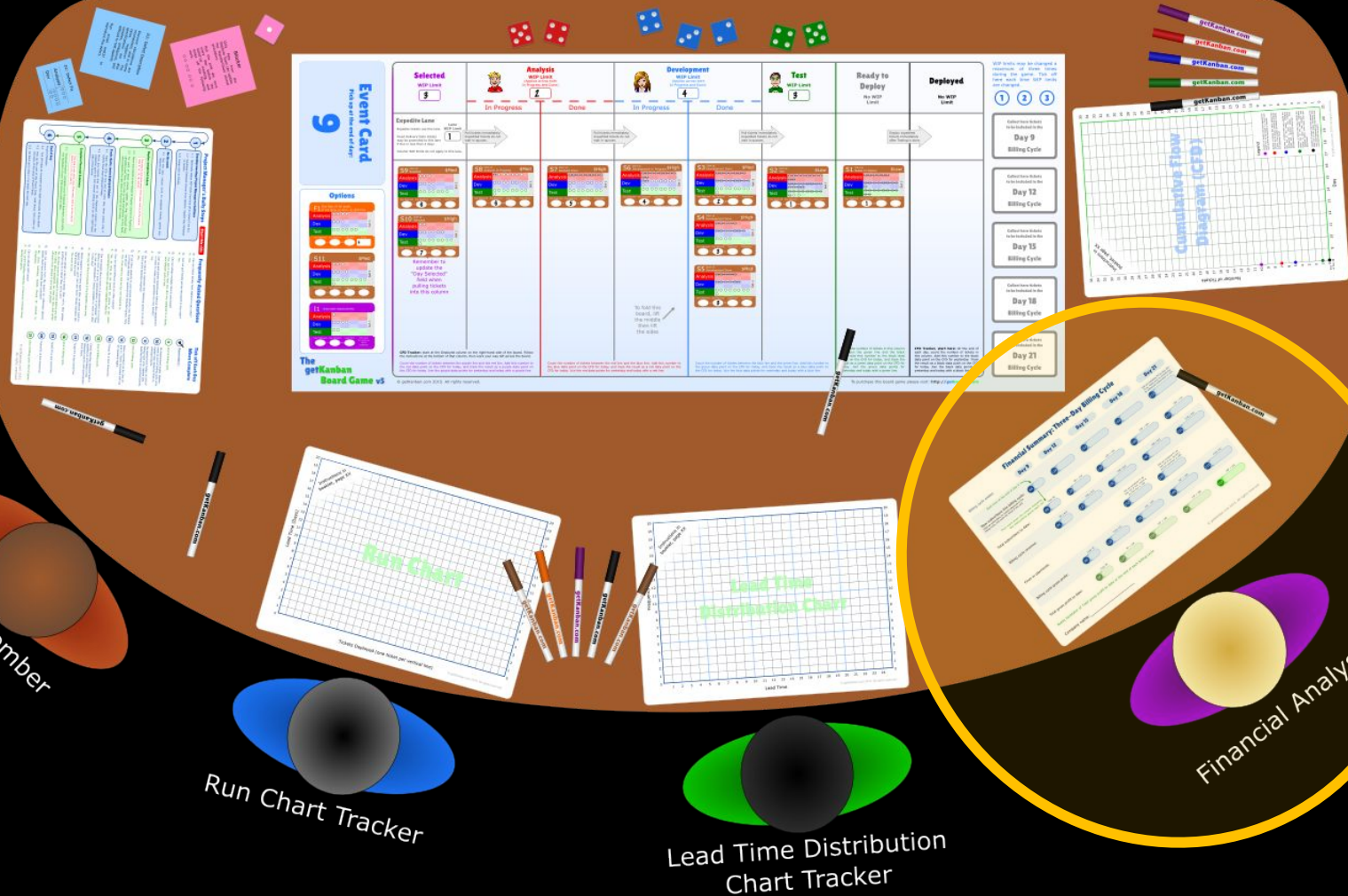
CFD Tracker

Team Member

Run Chart Tracker

Lead Time Distribution Chart Tracker

Financial Analyst



The Financial Analyst should be comfortable with basic algebra, and she will need a calculator. Most smartphones have a calculator app.

The Financial Analyst will need the Financial Summary sheet.

Remaining Players

Project Manager

CFD Tracker

Team Member

Run Chart Tracker

Lead Time Distribution
Chart Tracker

Financial Analyst

Players without specific roles will have plenty to do.



Team Arrangement

Project Manager

CFD Tracker

Team Member

Run Chart Tracker

Lead Time Distribution Chart Tracker

Financial Analyst



Players should be arranged around the board as indicated.

It is best if all players are able to view the board right side up (rather than upside down).

Nominate people to roles now, and take up your places around the board.

Set up the Board

Event Card
Pick up at the end of day:

9

Options

F1 Start day 18 for example
\$1,000 \$Low

Analysis Dev Test

S11 \$Med

Analysis Dev Test

I1 Automate deployments

Analysis Dev Test

Selected WIP Limit 3	Analysis WIP Limit (Applies across both In Progress and Done) 2	Development WIP Limit (Applies across both In Progress and Done) 4	Test WIP Limit 3	Ready to Deploy No WIP Limit	Deployed No WIP Limit	
Expedite Lane Expedite tickets use this lane. Lane WIP Limit 1 Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane.	<div style="display: flex; justify-content: space-around; align-items: center;"> In Progress Done In Progress Done </div>					
<p>S9 Start at: Selected \$Med Analysis Dev Test 6</p> <p>S10 Start at: Selected \$High Analysis Dev Test 7</p> <p>Remember to update the "Day Selected" field when pulling tickets into this column</p>	<p>S8 Start at: Analysis In Progress \$Med Analysis Dev Test 6</p>	<p>S7 Start at: Analysis Done \$High Analysis Dev Test 5</p>	<p>S6 Start at: Development In Progress \$High Analysis Dev Test 4</p>	<p>S3 Start at: Development Done \$Med Analysis Dev Test 2</p> <p>S4 Start at: Development Done \$High Analysis Dev Test 3</p> <p>S5 Start at: Development Done \$Med Analysis Dev Test 3</p>	<p>S2 Start at: Test \$Low Analysis Dev Test 1</p>	<p>S1 Start at: Ready to Deploy \$Low Analysis Dev Test 1</p>
<p>CFD Tracker: start at the Deployed column on the right-hand side of the board. Follow the instructions at the bottom of that column, then work your way left across the board.</p> <p>Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.</p>	<p>Count the number of tickets between the red line and the blue line. Add this number to the blue data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the red data points for yesterday and today with a red line.</p>		<p>Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.</p>		<p>Count the number of tickets in this column (between the green line and the black line). Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.</p>	

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1
Day 9
Billing Cycle

2
Day 12
Billing Cycle

3
Day 15
Billing Cycle

Day 18
Billing Cycle

Day 21
Billing Cycle

To purchase this board game please visit: <https://getkanban.com>

If the board is not already setup, place tickets S1 – S10 in the column indicated “Start at” on the ticket. For example, S1 starts at Ready to Deploy:

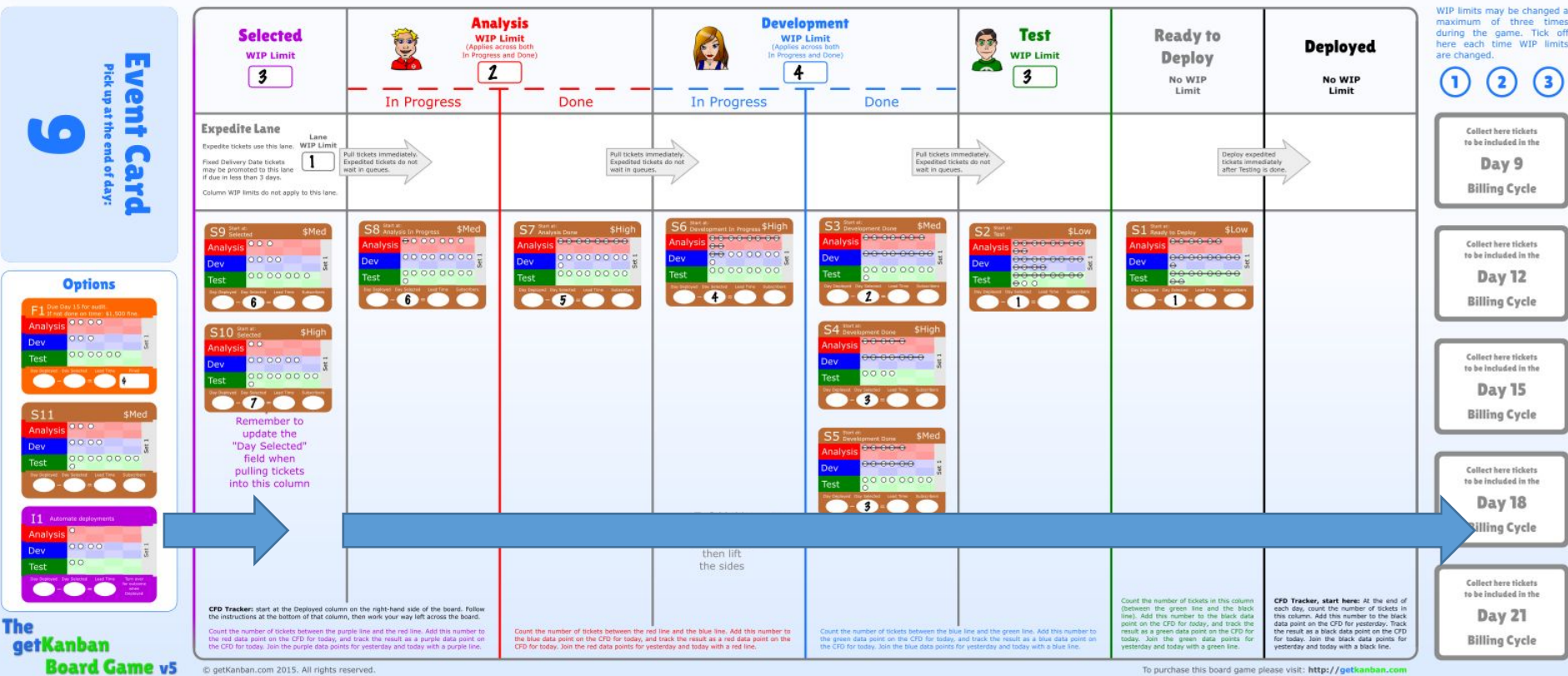
S1 Start at: Ready to Deploy \$Low

Stack remaining tickets in their designated areas in the Options section at the left of the board.

Each team choose a name; facilitator update score board

Team Name \ Billing Cycle End	Day 9	Day 12	Day 15	Day 18	Day 21
Faster Co					
Wildcats					
Flow Inc					
Extreme Team					

The Board: Pull tickets to the right



WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the

Day 9

Billing Cycle

Collect here tickets to be included in the

Day 12

Billing Cycle

Collect here tickets to be included in the

Day 15

Billing Cycle

Collect here tickets to be included in the

Day 18

Billing Cycle

Collect here tickets to be included in the

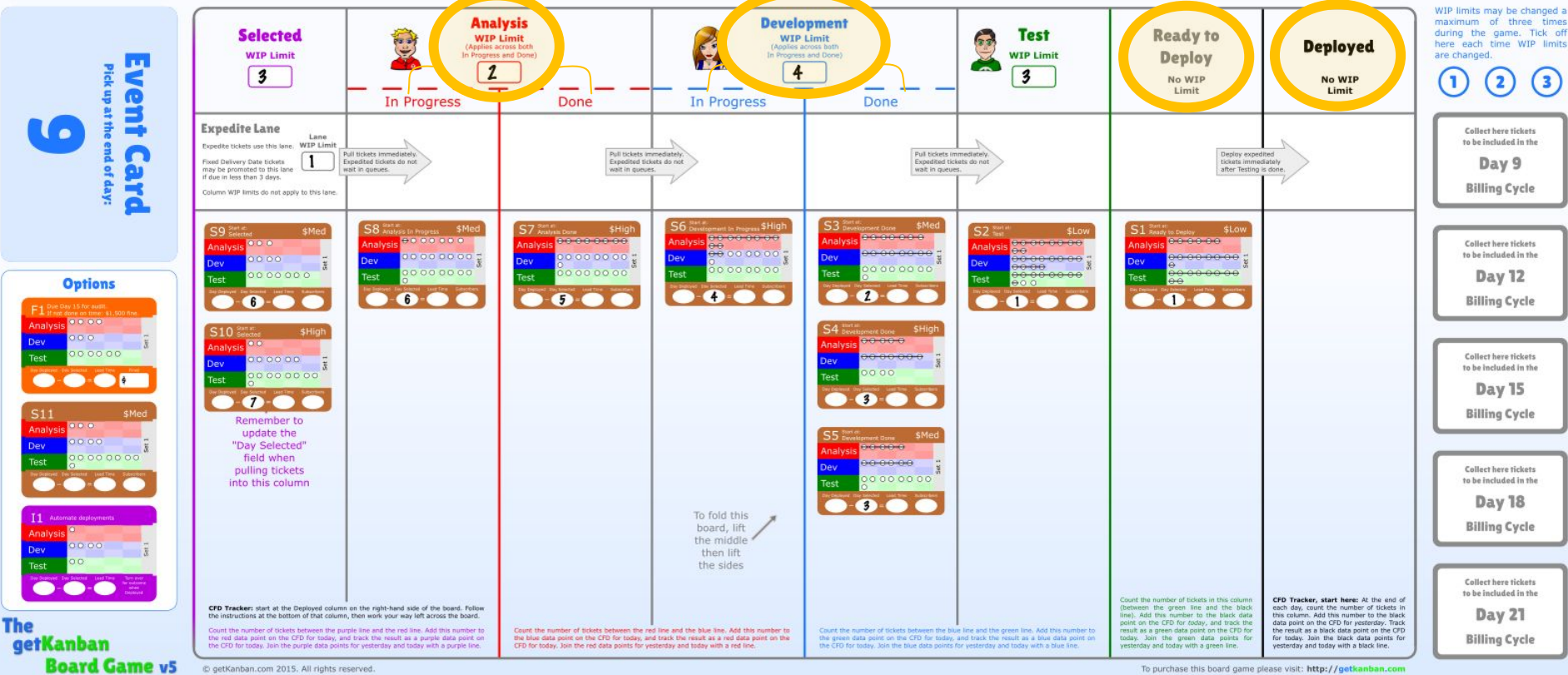
Day 21

Billing Cycle

Tickets are pulled from Options into Selected.

They are pulled into subsequent stations to the right as work is completed at each station.

The Board: WIP Limits

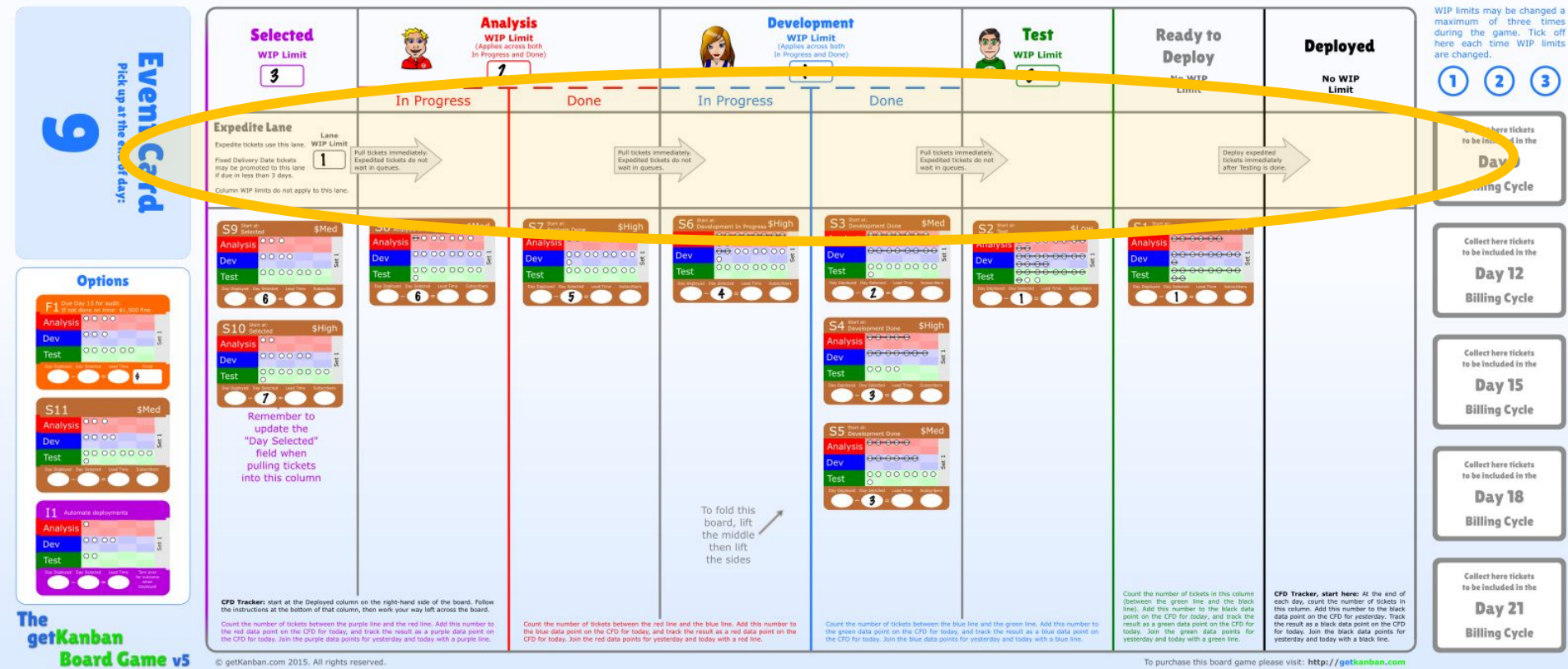


Notice that WIP limits for Analysis apply across both *In Progress* and *Done*.

The same is true for Development.

There are no WIP limits for Ready to Deploy and Deployed.

The Board: Expedite Lane



The Expedite Lane has its own WIP limit, which is initially 1.

While the WIP limit is 1, there may be up to 1 ticket in the Expedite Lane at any time *over and above* the tickets in the main swim lane.

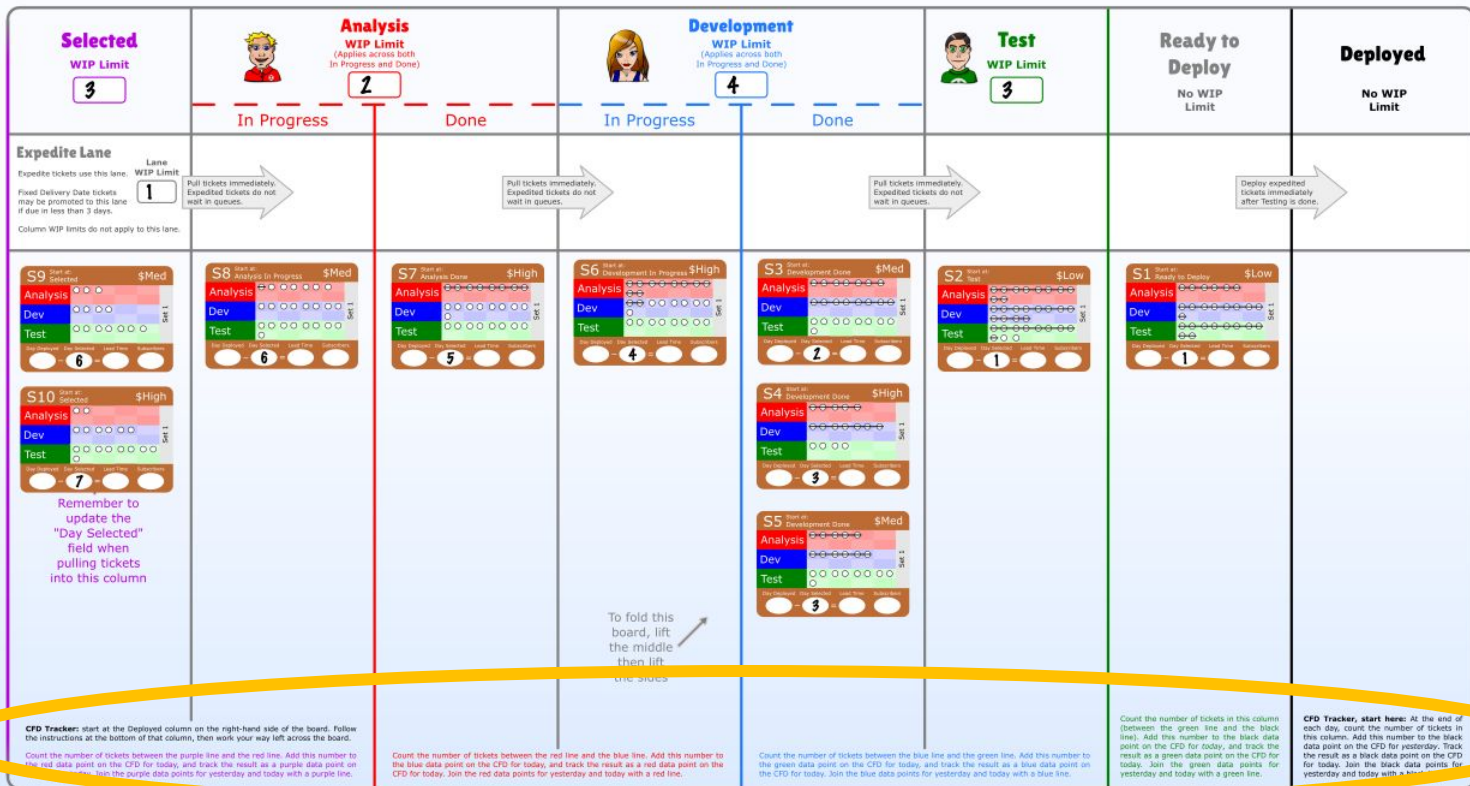
The Expedite Lane may only be used for certain tickets. Read the instructions in the Expedite Lane on the board.

CFD Tracker Instructions

9

Event Card
Pick up at the end of day:

Options



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For more board game please visit: <https://getkanban.com>

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the

Day 9

Billing Cycle

Collect here tickets to be included in the

Day 12

Billing Cycle

Collect here tickets to be included in the

Day 15

Billing Cycle

Collect here tickets to be included in the

Day 18

Billing Cycle

Collect here tickets to be included in the

Day 21

Billing Cycle

CFD Tracker: the instructions at the bottom of the columns on the board are for you.

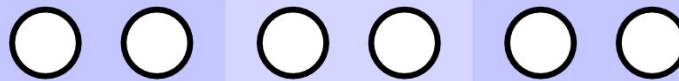
S12

\$High

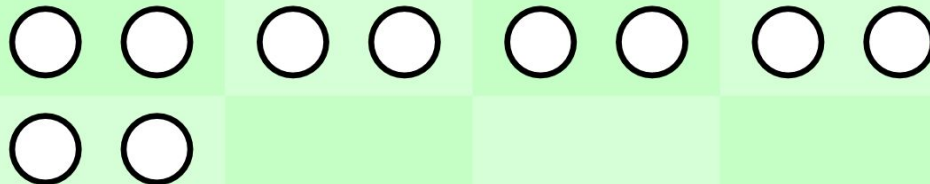
Analysis



Dev



Test



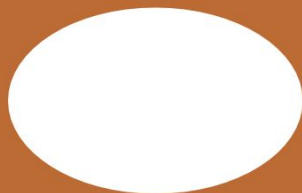
Set 1

Day Deployed

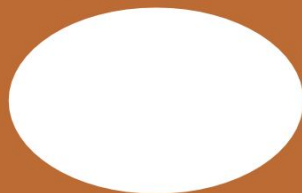
Day Selected

Lead Time

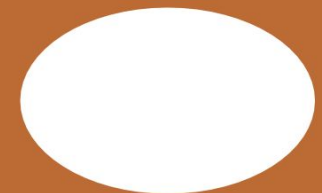
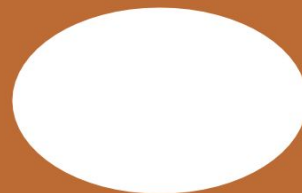
Subscribers



—



=

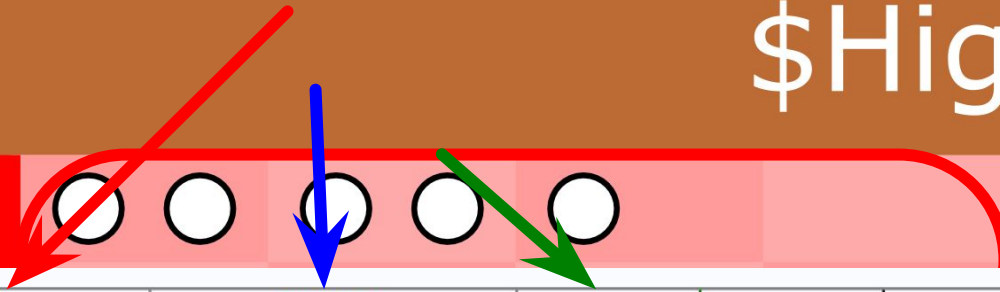


Each ticket has a number of white dots which represent work required to complete the ticket. The dots are arranged in three sections, representing Analysis, Development, and Test work.

S12

\$High

Analysis



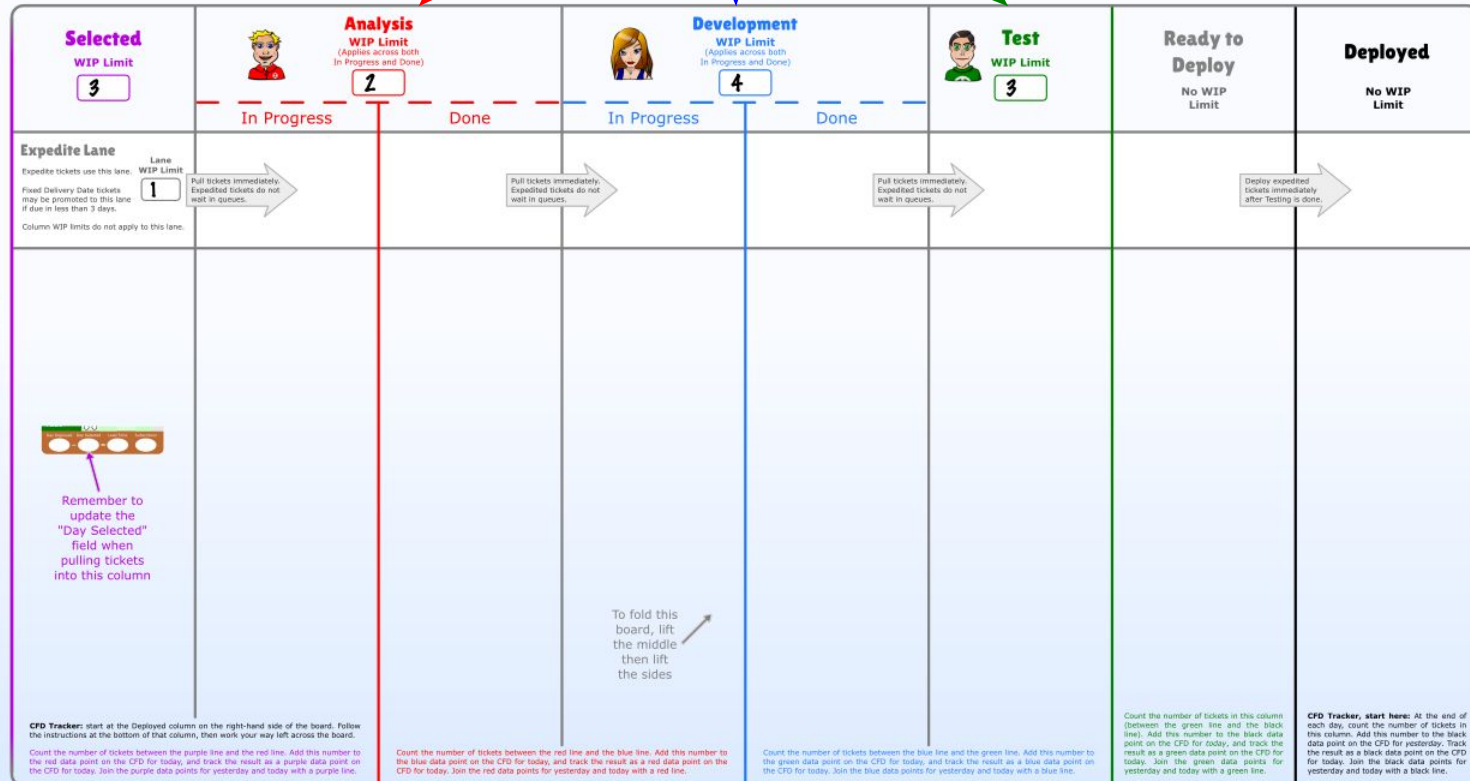
Event
Cards

Options

Fixed Delivery
Date Tickets

Standard
Tickets

Intangible
Tickets



WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9
Billing Cycle

Collect here tickets to be included in the
Day 12
Billing Cycle

Collect here tickets to be included in the
Day 15
Billing Cycle

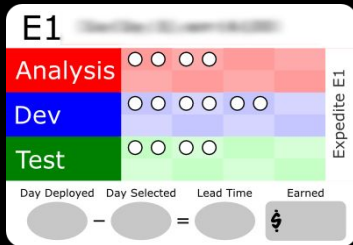
Collect here tickets to be included in the
Day 18
Billing Cycle

Collect here tickets to be included in the
Day 21
Billing Cycle

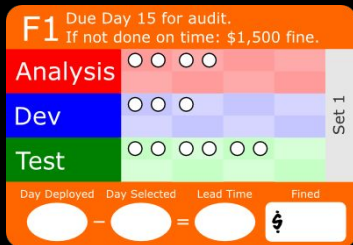
To purchase this board game please visit: <http://getkanban.com>

The three colored sections correspond to the sections of the same name and color on the board.

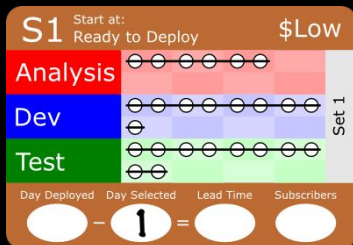
Classes of Service



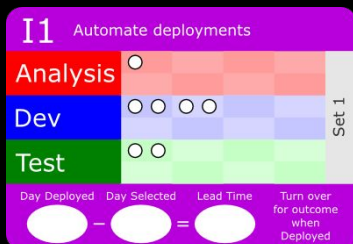
White tickets represent work that is very urgent and expected to be of high value. They receive an **Expedite** class of service. You do not have any Expedite tickets at the start of the game, but they will be introduced by Event Cards during the game. Expedite tickets use the Expedite Lane.



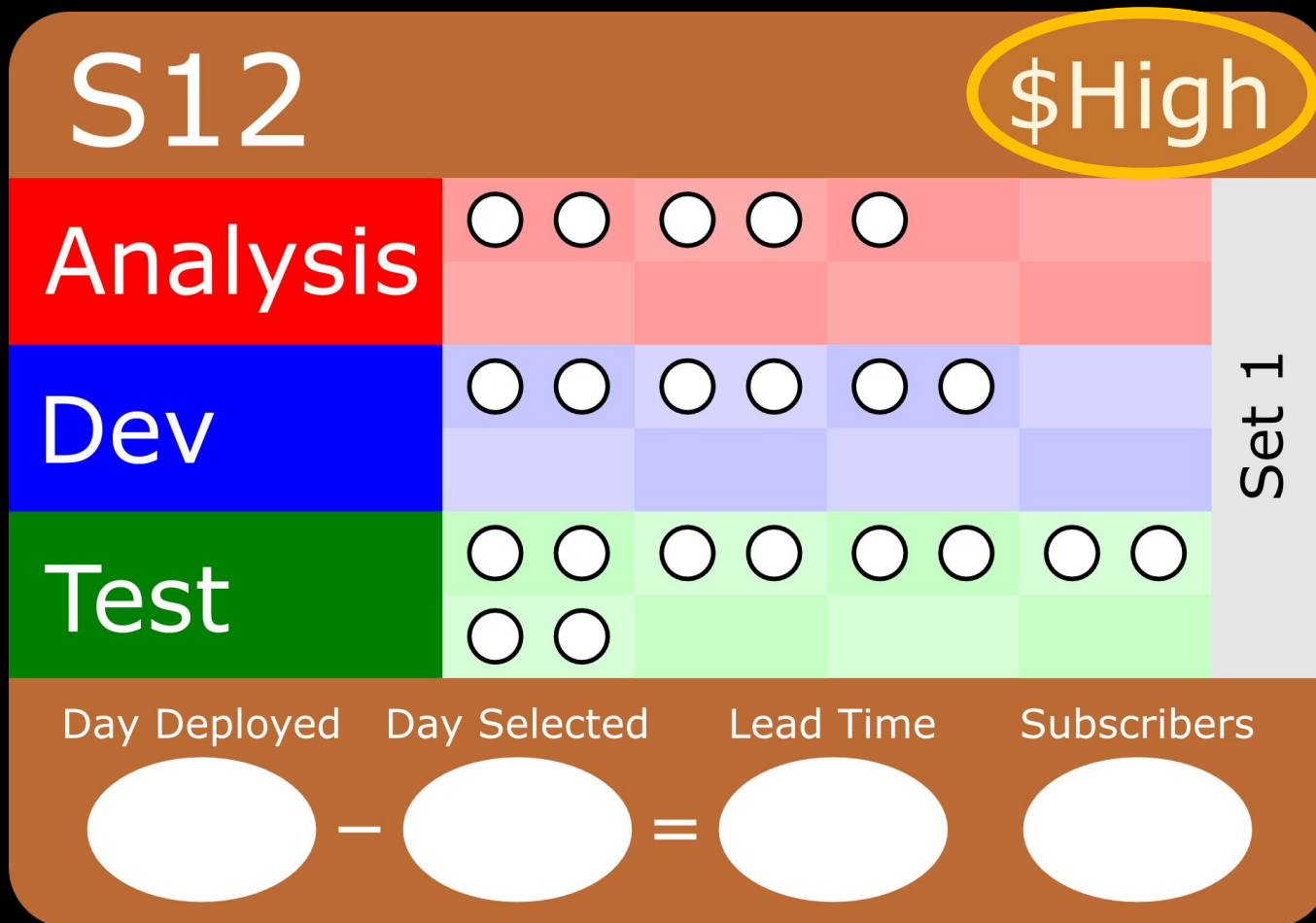
Orange tickets have a **Fixed Delivery Date**. That is, they must be deployed on or before the date indicated on the ticket in order to gain the potential value (or avoid the cost). Fixed Delivery Date tickets may use the Expedite Lane if due in less than three days.



Brown tickets represent new product features. They receive a **Standard** class of service. Deployment of Standard tickets results in new Subscribers.

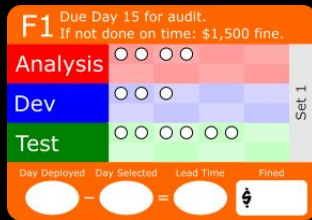


Purple tickets represent work for which the outcome is not expected to result in immediate or direct business value. They receive an **Intangible** class of service.



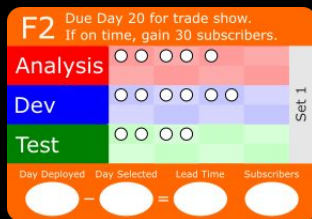
- Marketing has estimated the market value of each Standard ticket as \$High, \$Med, or \$Low. High value tickets are expected to attract more subscribers.
- Marketing is confident their estimates are fairly accurate 80% of the time.
- The actual outcome for each ticket is provided on the back of the ticket. You are not allowed to view the back of a ticket until it is deployed.

Fixed Delivery Date Tickets



New regulations require an audit of customer data security.

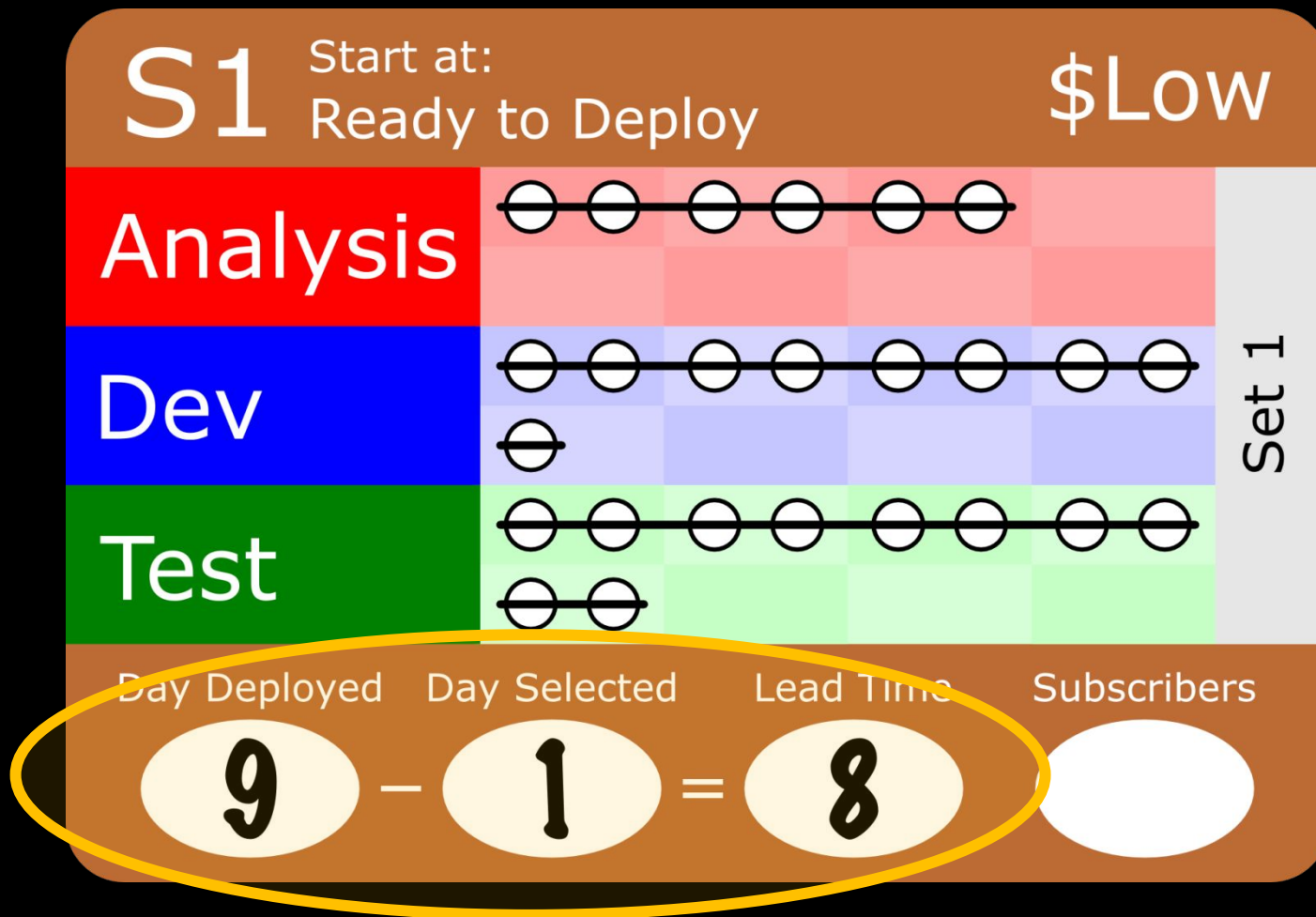
Ticket F1 is to correct a design flaw that would cause us to fail the audit. If we have not finished this ticket by the end of Day 15, we will be fined \$1,500.



There is an industry trade show coming up.

It is rumored that arch-rival MeToo Inc will have a new feature ready for the show. If we don't have this feature in time, MeToo will attract all the potential subscribers at the show.

If we have F2 ready by Day 21, in time for the show, we can expect to gain 30 new subscribers, if not, we will gain no new subscribers from the trade show.

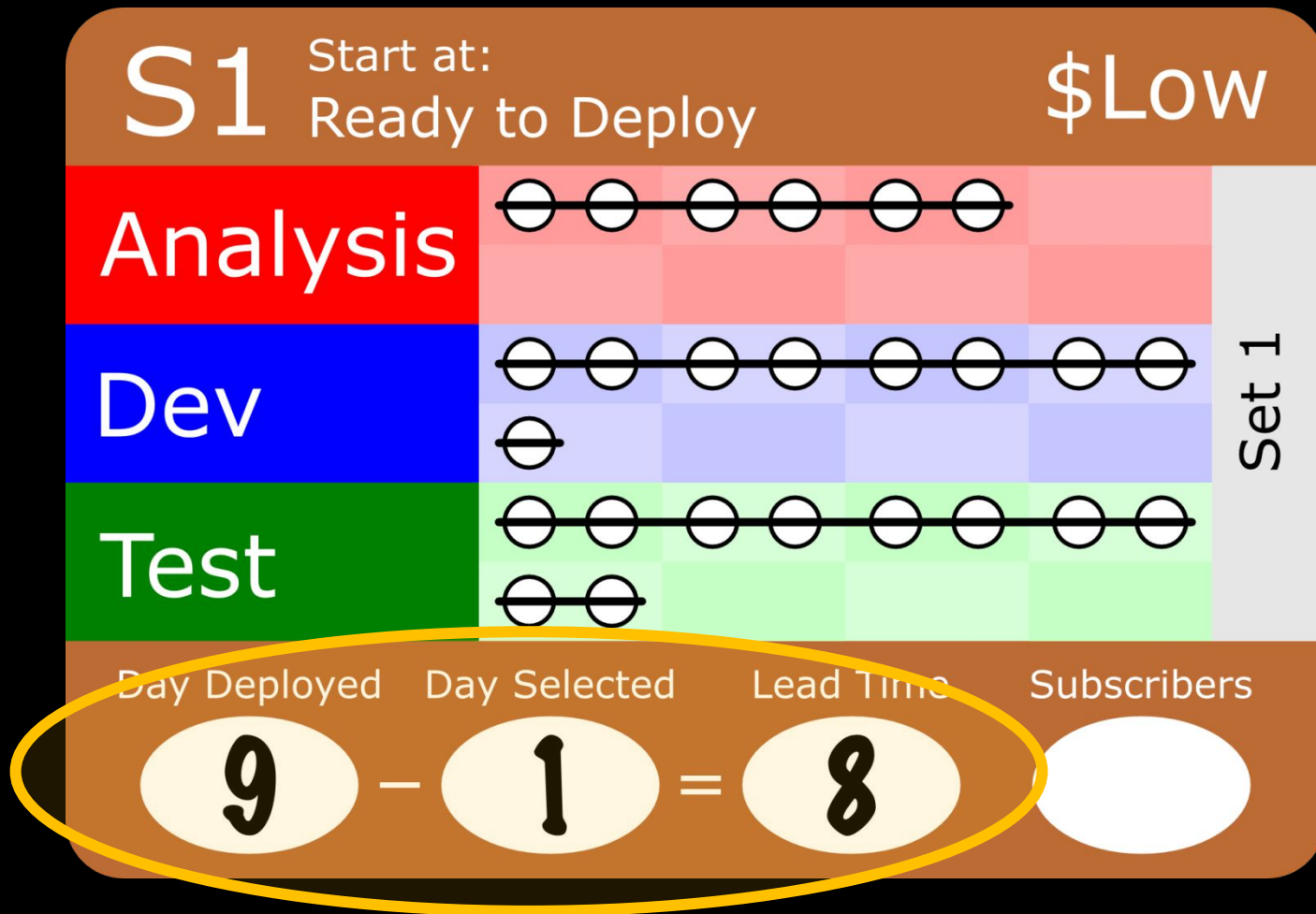


We will use the three leftmost fields at the bottom of each ticket to calculate Lead Time.

Lead Time is the number of days it takes for a ticket to travel across the board from Selected to Deployed.

For each ticket, we record the day it was selected and the day it was deployed.

We can then calculate Lead Time: Day Deployed - Day Selected = Lead Time.



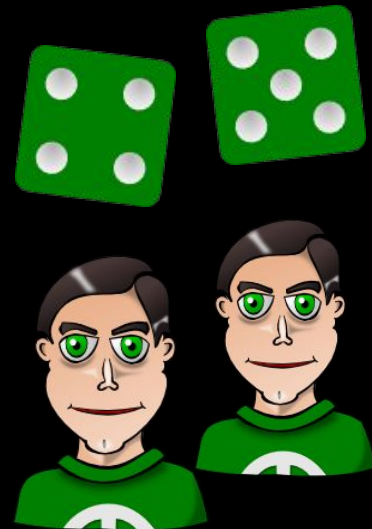
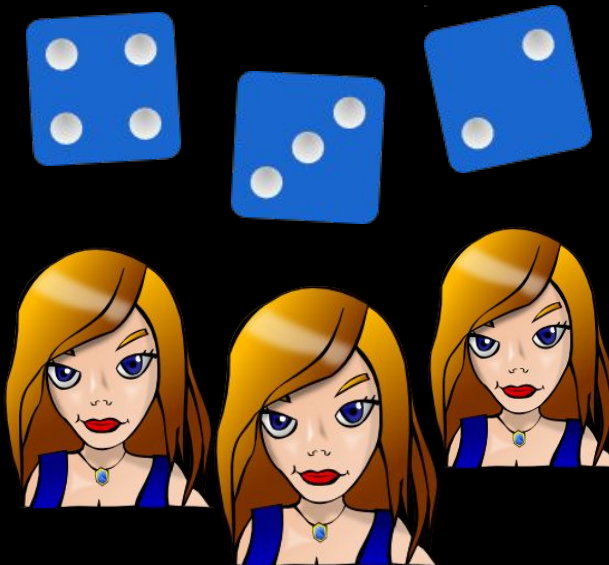
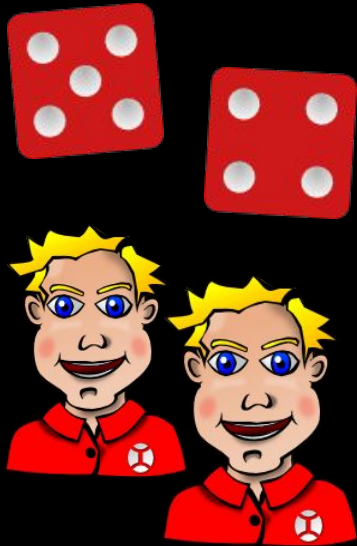
We play the game in simulated days from Day 9 to Day 21.

Whenever a ticket is pulled into the Selected column on the board we record the current day on the Day Selected field on the ticket.

Whenever a ticket is Deployed, we record the current day on the Day Deployed field on the ticket.

We can then calculate Lead Time using the formula provided on the ticket, as described previously.

Your Team



This is your team.

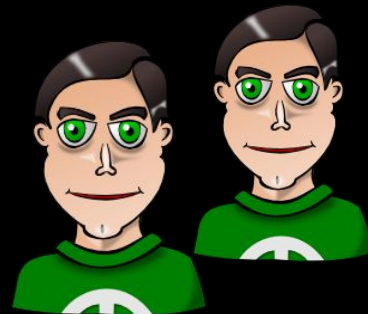
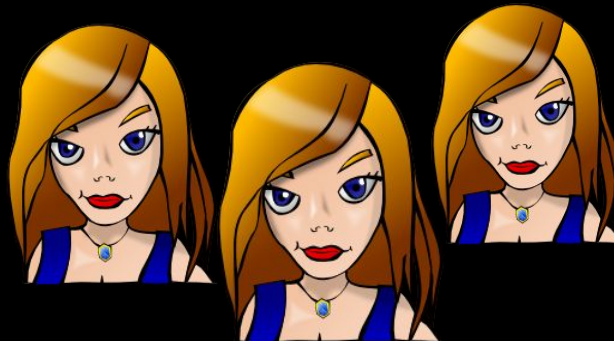
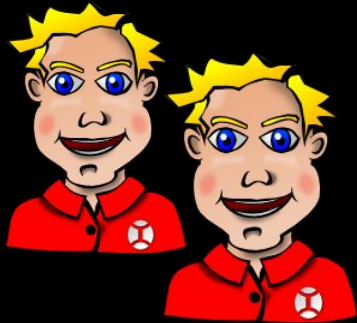
You have two Analysts, represented by the two red dice.

You have three Developers represented by blue dice, and two Testers represented by green dice.

Note: *die* is the singular form of *dice*.



m



During the game we will assign dice to tickets.

Once all dice are assigned to tickets, we roll the dice.

A red 3 is rolled, so three dots of Analysis work are struck off the ticket.



Dice may be assigned to work outside their specialization.

In this case, an Analyst has been assigned to work on a ticket in Development.

When a die is used outside of its specialization, its value is halved, and rounded up to the nearest integer.

In this case a 3 is rolled. $3/2 = 1.5$, rounded up = 2. So 2 dots of Development work are struck off the ticket.

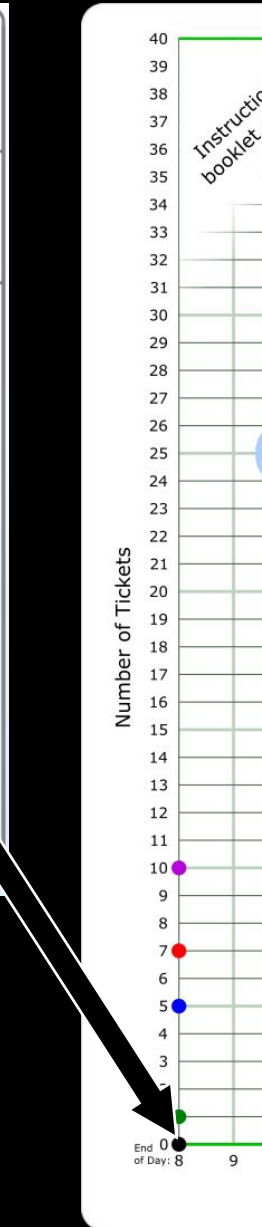
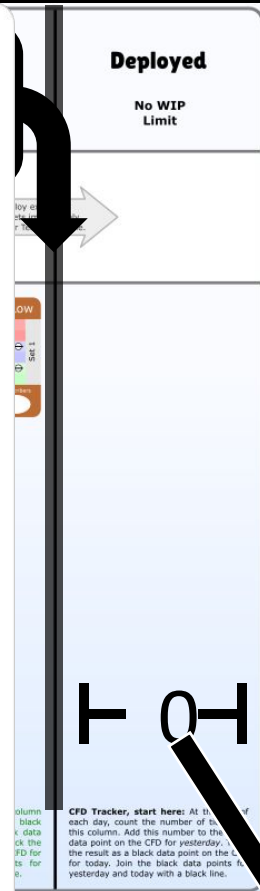
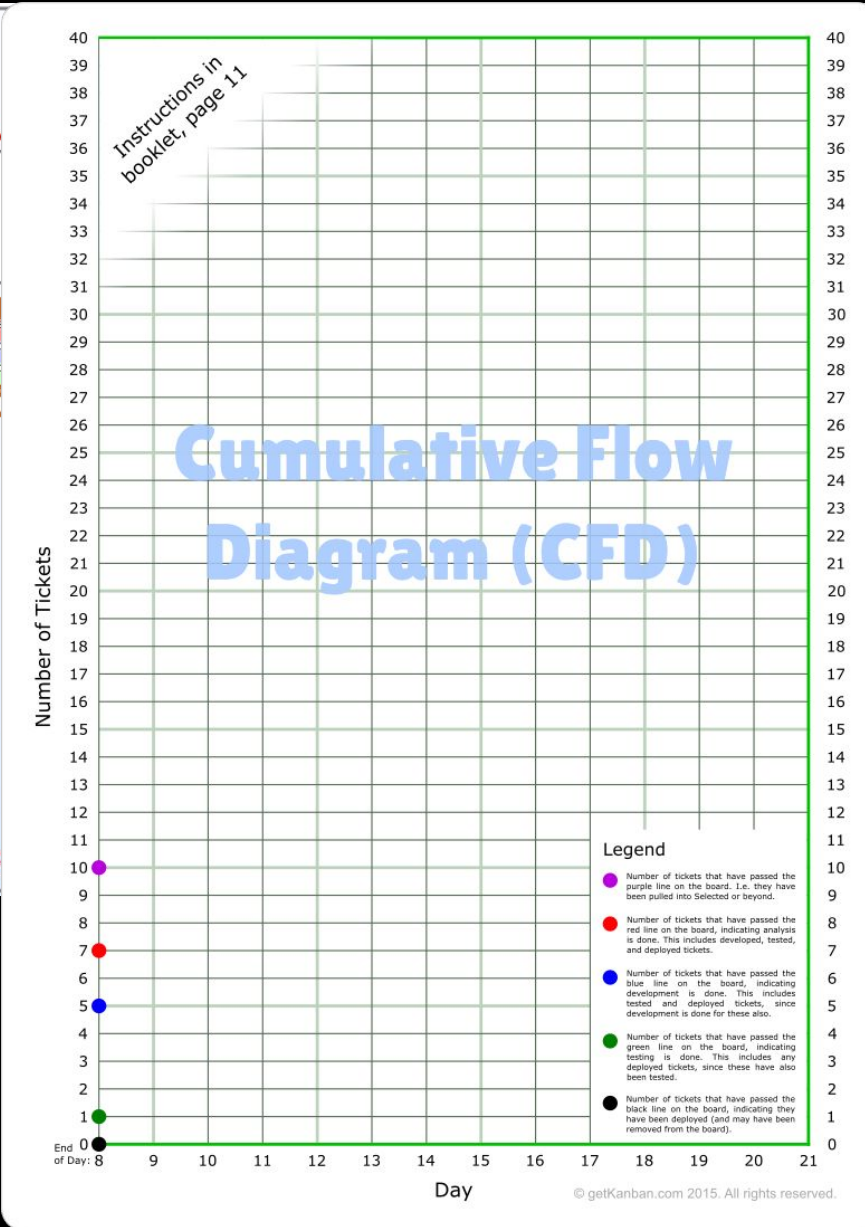
CFD: Cumulative Flow Diagram

Before we begin playing, we need to understand the data points on the CFD as at the end of Day 8 (that is, now – at the start of the game)

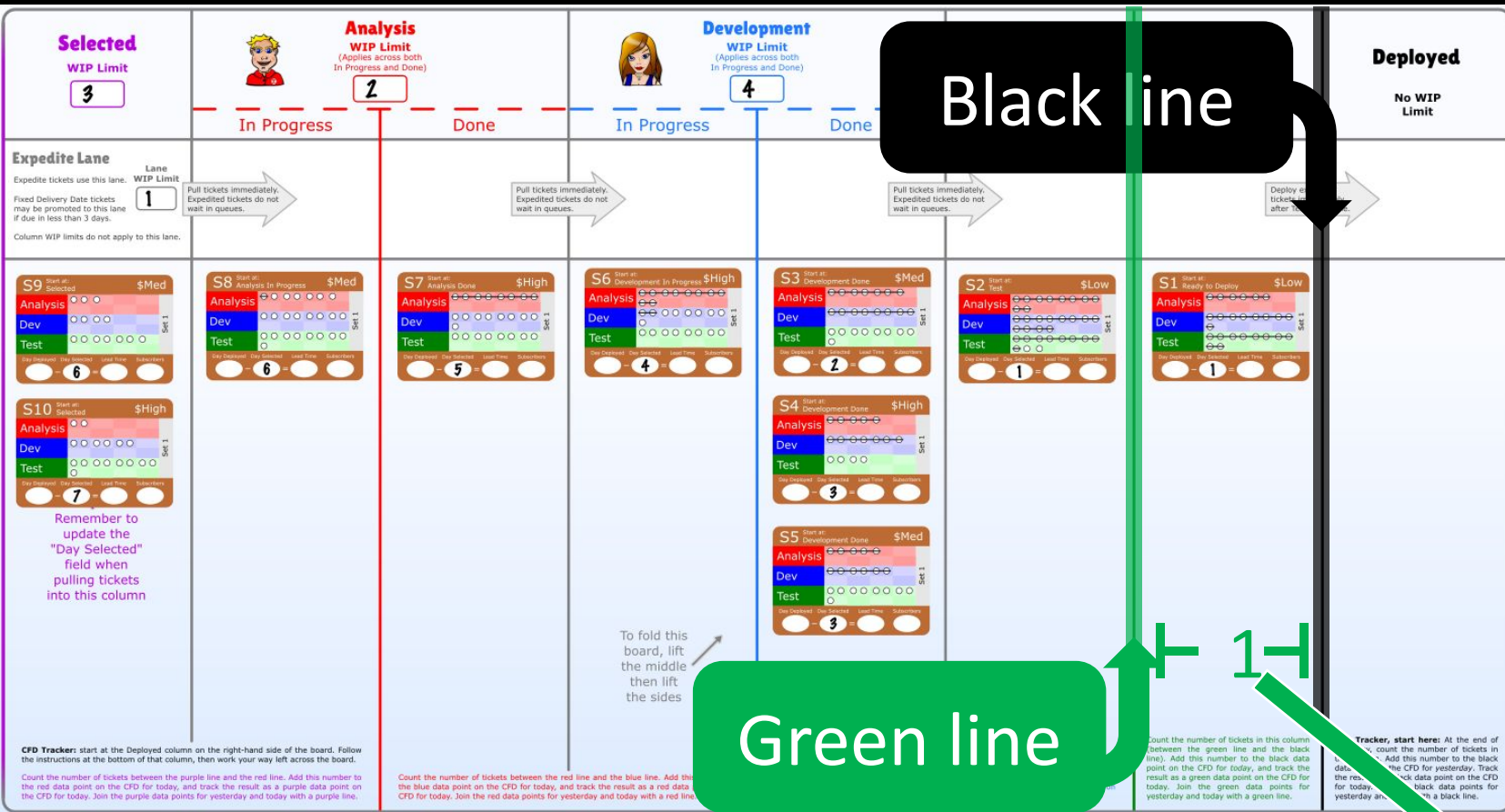
Understand the CFD as at the end of Day 8 (that is, now – at the start of the game)



Zero tickets have passed the
... and there is a black point
This means that, as at the end



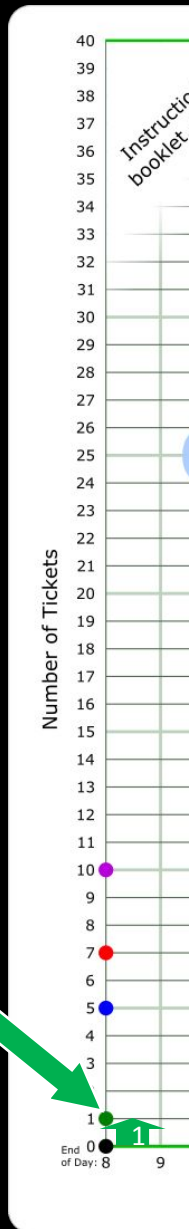
Understand the CFD as at the end of Day 8 (that is, now – at the start of the game)



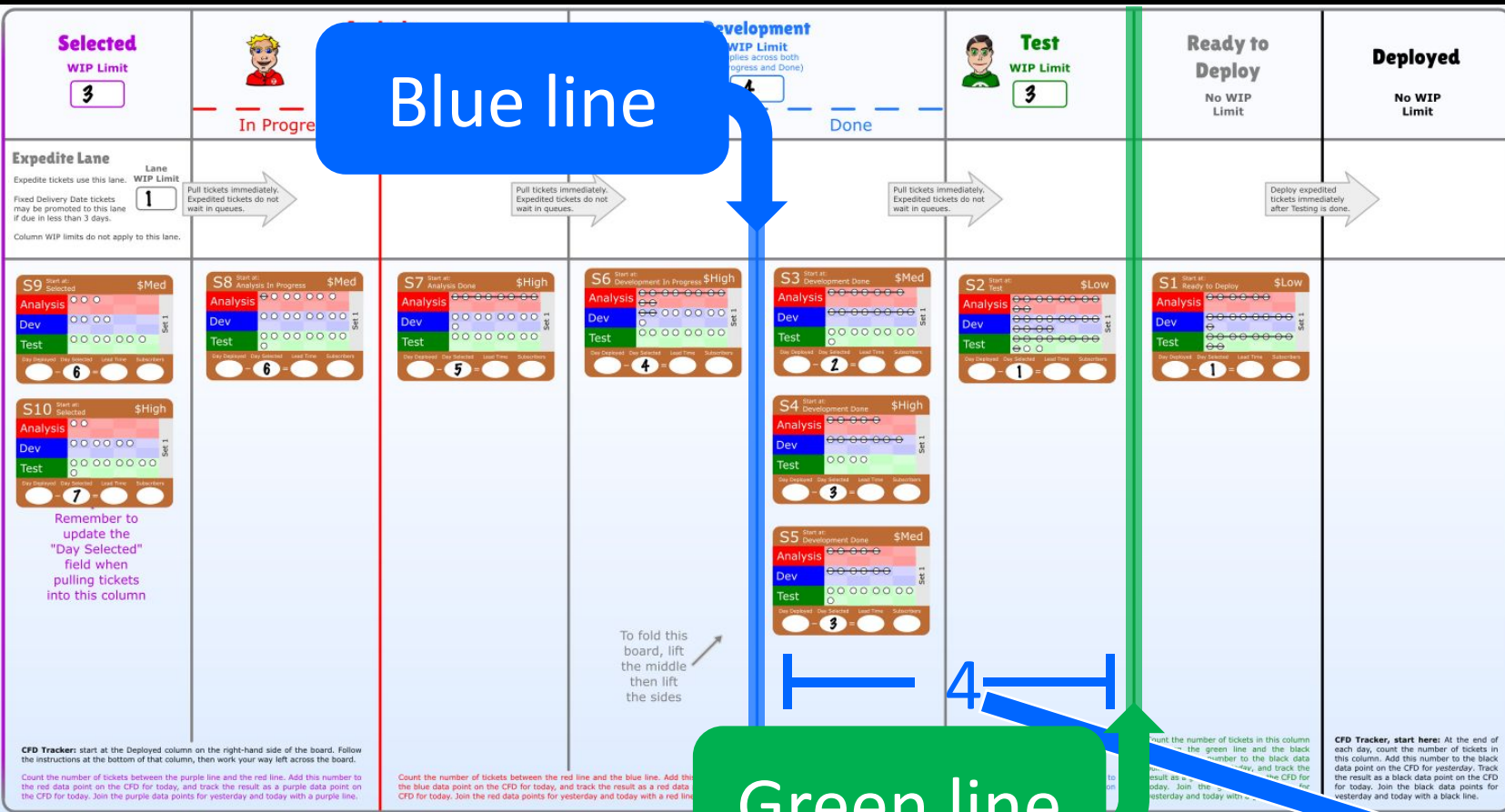
There is one ticket between the green line and the black line on the board ...

... so we count up 1 from the black point to the green point on the CFD.

This means that, as at the end of Day 8, one ticket has finished Test, but has not yet been deployed.



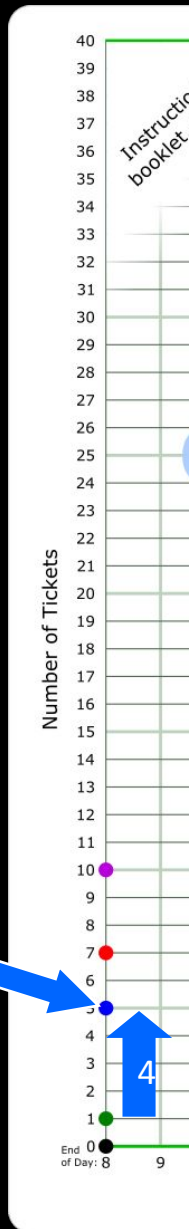
Understand the CFD as at the end of Day 8 (that is, now – at the start of the game)



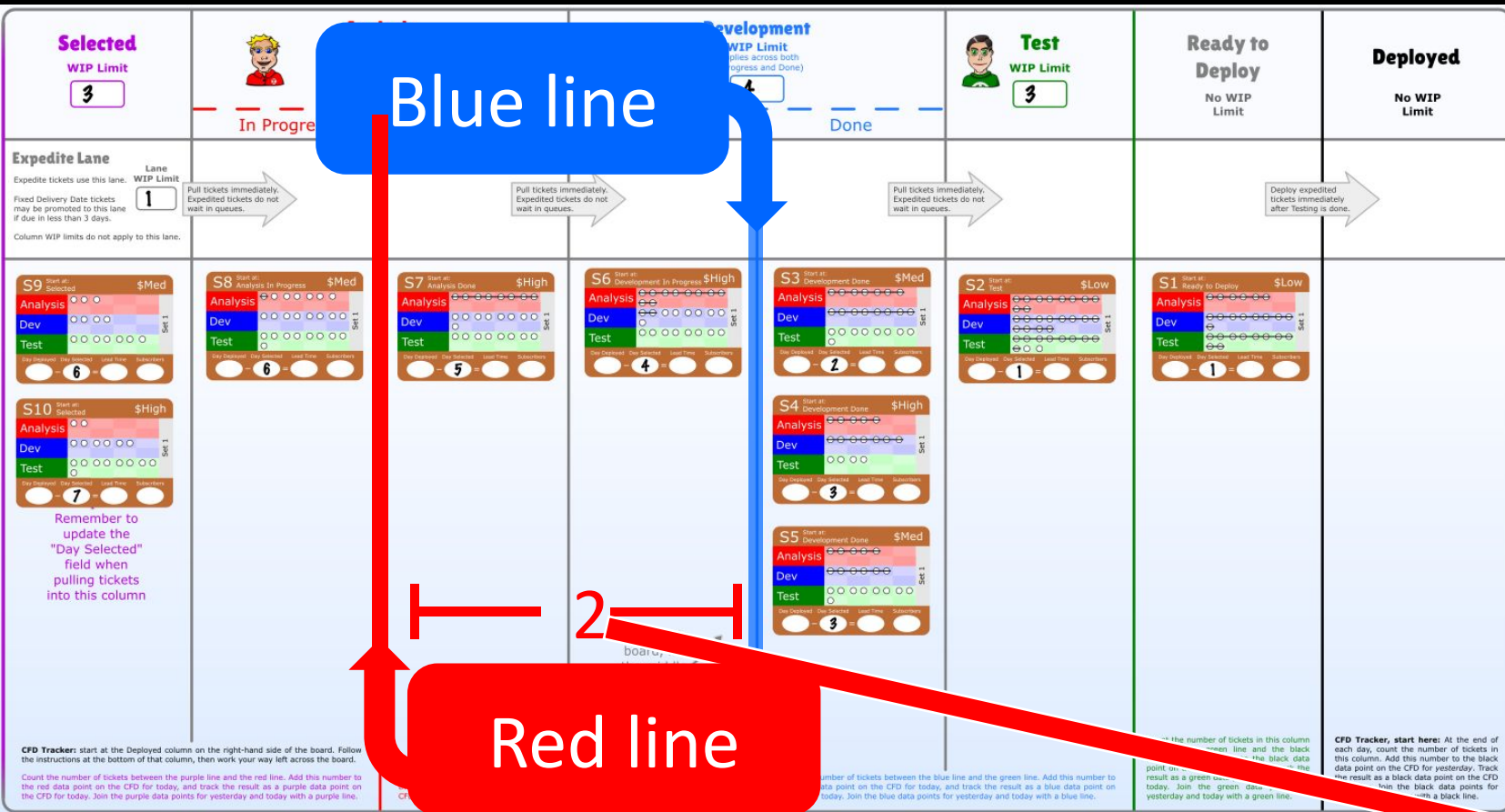
There are four tickets between the blue line and the green line on the board ...

... so we count up 4 from the green point to the blue point on the CFD.

This means that as at the end of Day 8, four tickets have finished Development, but have not yet finished Testing.



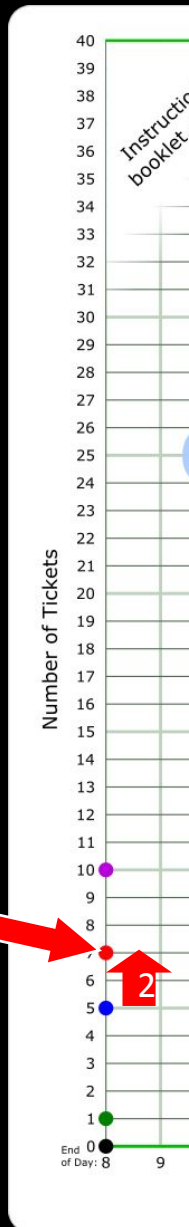
Understand the CFD as at the end of Day 8 (that is, now – at the start of the game)



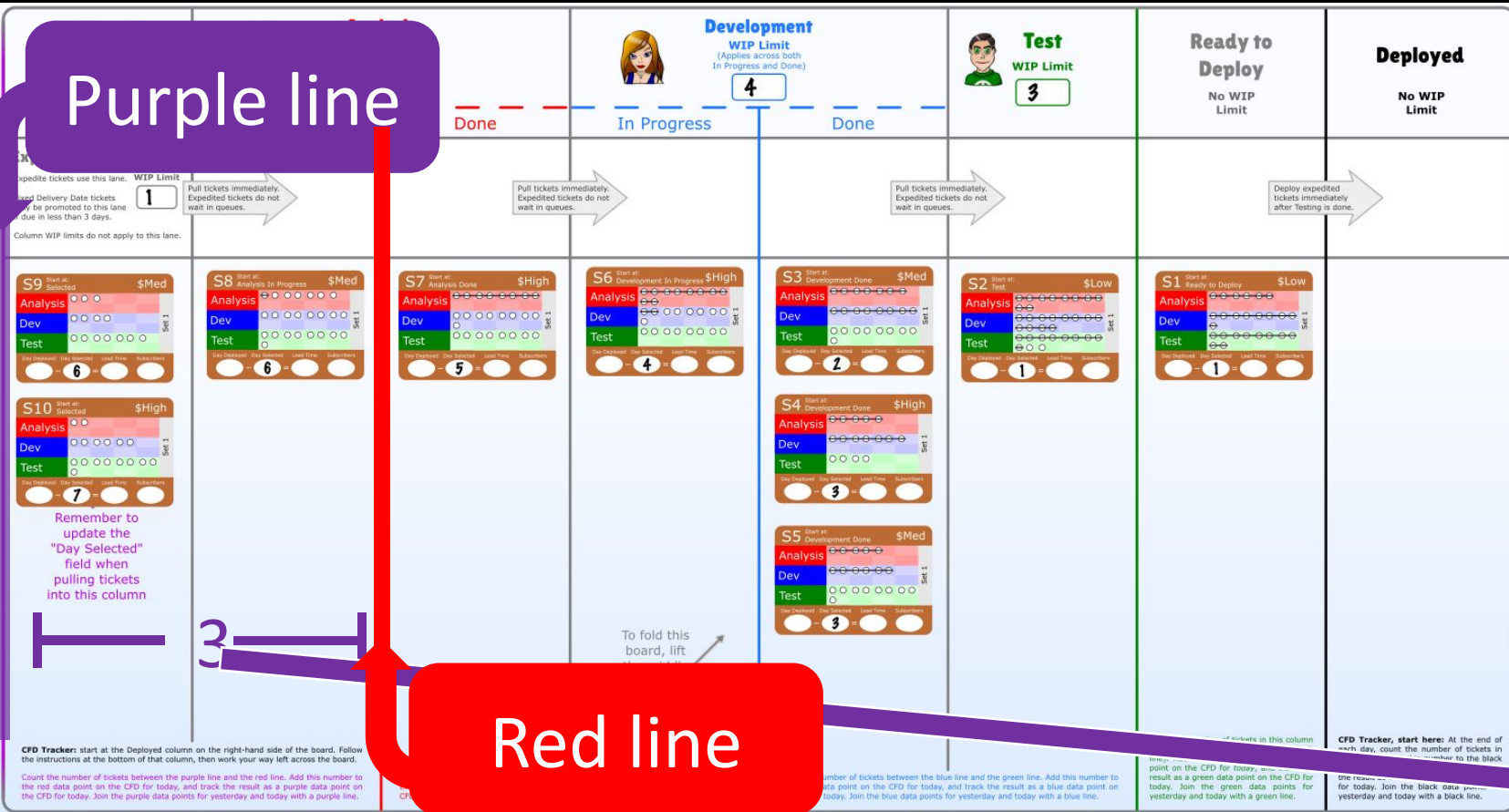
There are two tickets between the red line and the blue line on the board ...

... so we count up 2 from the blue point to the red point on the CFD.

This means that as at the end of Day 8, two tickets have finished Analysis, but have not yet finished Development.



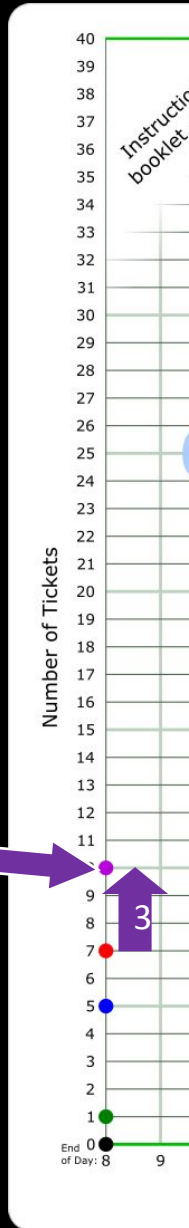
Understand the CFD as at the end of Day 8 (that is, now – at the start of the game)



There are three tickets between the purple line and the red line on the board ...

... so we count up 3 from the red point to the purple point on the CFD.

This means that as at the end of Day 8, three tickets have been pulled onto the board, but have not yet finished Analysis.



Day 9

We are now going to step through Day 9.

All of the decisions have be made for you today, including dice assignments and dice rolls, and you will follow along.

After Day 9, you will understand how to play, and you will make all further decisions yourselves.

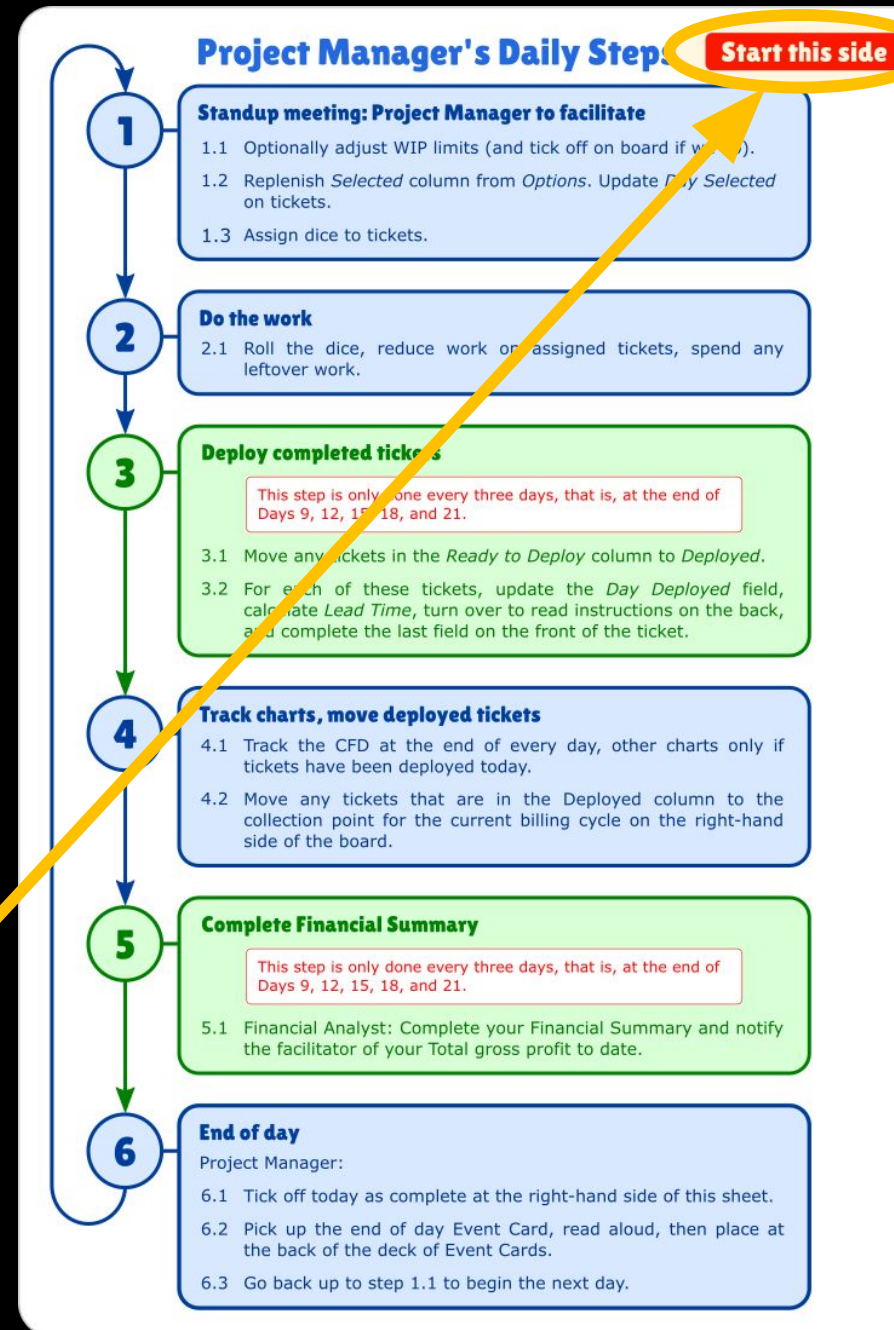
Project Manager's Daily Steps

We are going to follow the steps on the Project Manager's Daily Steps guide.

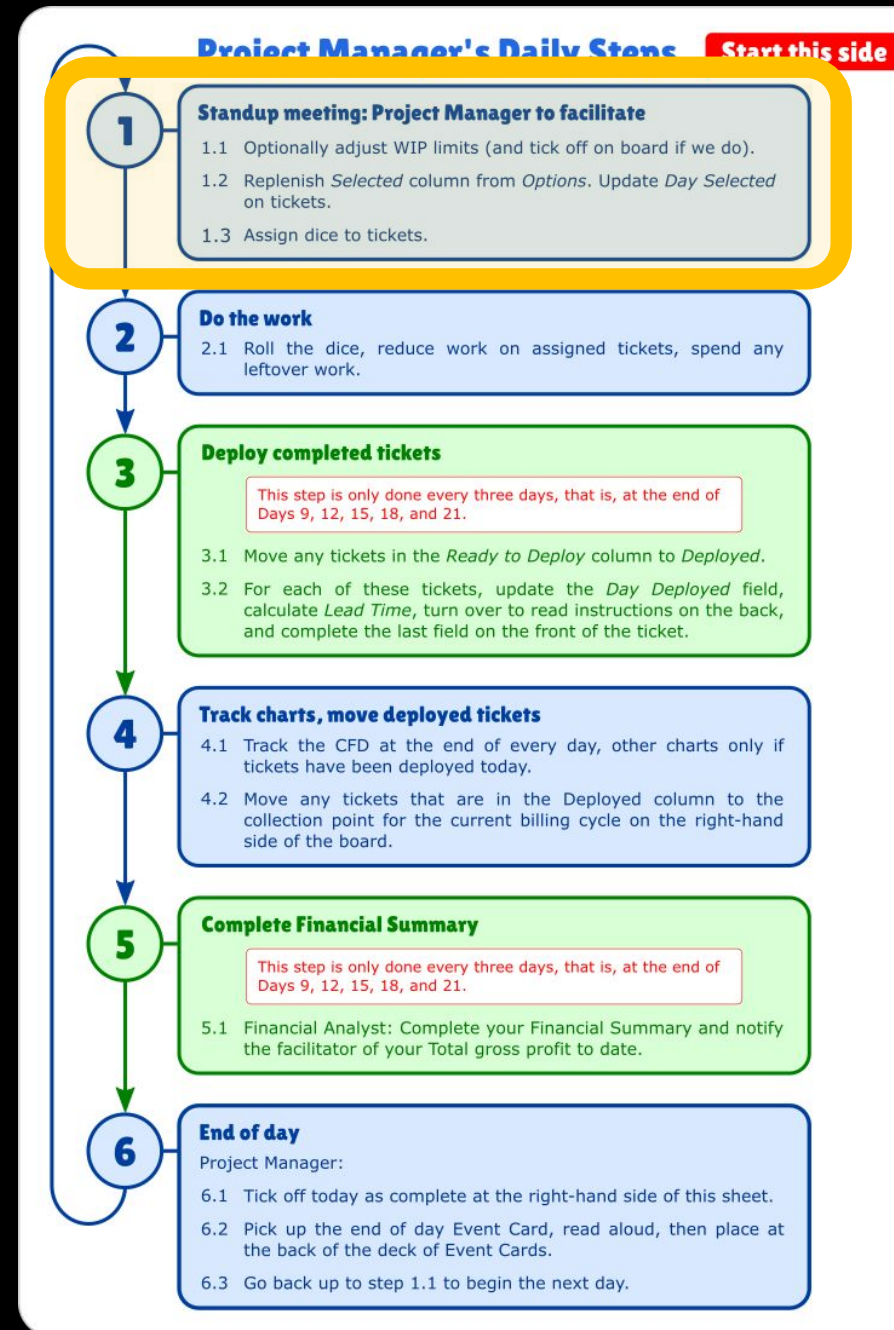
Project Managers: Please follow and read the steps carefully as we proceed, and make sure you understand them fully.

Make sure you have turned to the side of your guide labelled

Start this side



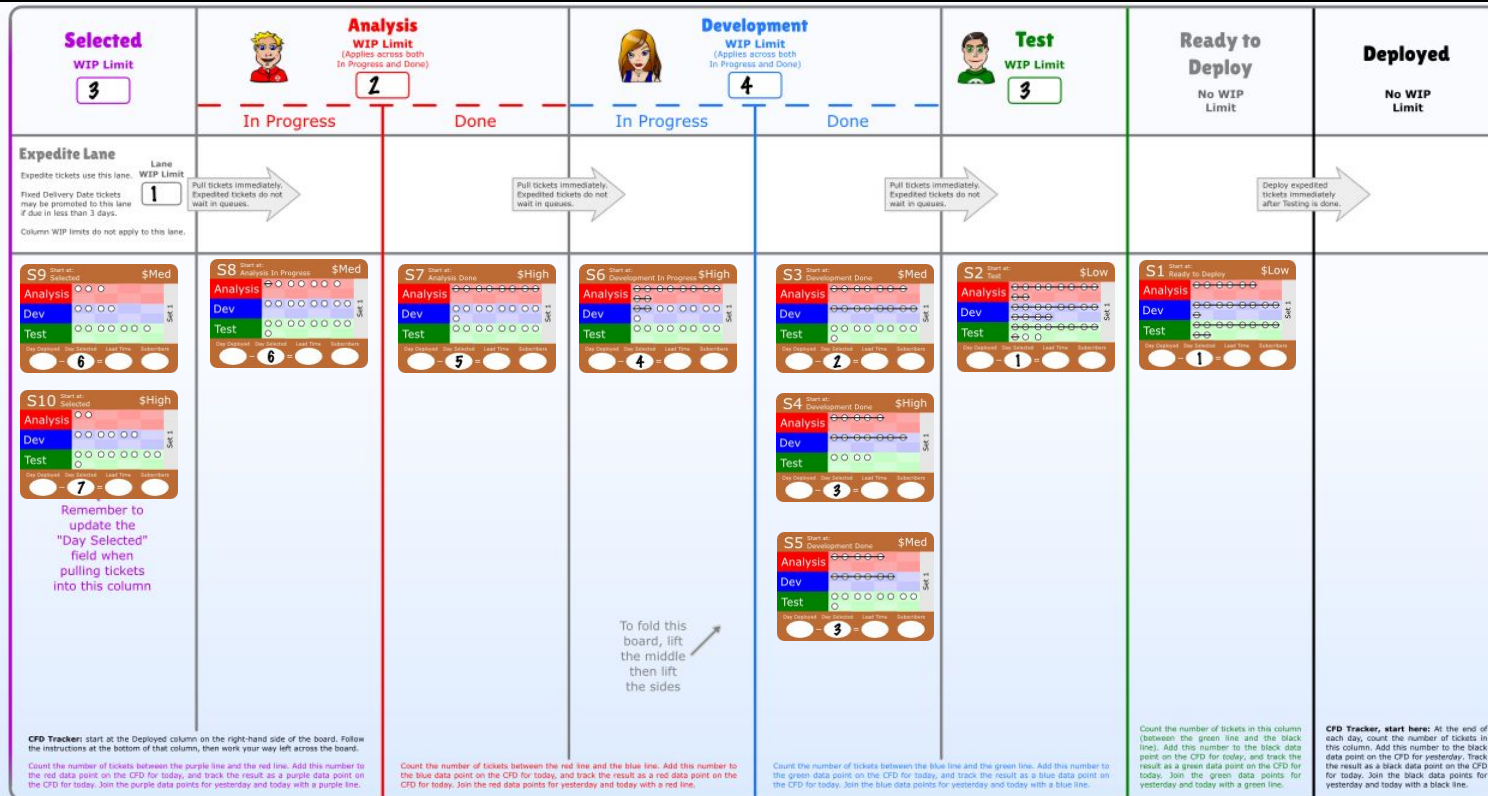
Step 1. Standup meeting: Project Manager to facilitate





Options

The getKanban Board Game v5



① ② ③

Collect here tickets
to be included in the

Day 9

Billing Cycle

Collect here tickets
to be included in the

Day 12

Billing Cycle

Collect here tickets
to be included in the

Day 15

Billing Cycle

Collect here tickets
to be included in the

Day 18

Billing Cycle

Collect here tickets
to be included in the

Day 21
Billing Cycle

1.1 Review WIP limits: We could change WIP limits now if we thought we needed to, but we will leave them as they are today.

To purchase this board game please visit: <http://getkanban.com>

Step 1: Standup Meeting

Event Card
Pick up at the end of day:

9

Options

F1: Dev Day 22 for audit. Pull down on line: \$1,000 Low.
Analysis: [Progress bar]
Dev: [Progress bar]
Test: [Progress bar]
Day Selected: 1

S13: [Progress bar]
Analysis: [Progress bar]
Dev: [Progress bar]
Test: [Progress bar]
Day Selected: 1

I1: Automate deployments.
Analysis: [Progress bar]
Dev: [Progress bar]
Test: [Progress bar]
Day Selected: 1

The getKanban Board Game v5

Selected
WIP Limit: 3

Analysis
WIP Limit: 2 (Applies across both In Progress and Done)

Development
WIP Limit: 4 (Applies across both In Progress and Done)

Test
WIP Limit: 3

Ready to Deploy
No WIP Limit

Deployed
No WIP Limit

Expedite Lane
Expedite tickets use this lane. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP Limit is 1.

Options

S9: Start at Selected. \$Med. Analysis: [Progress bar], Dev: [Progress bar], Test: [Progress bar]. Day Selected: 6.

S10: Start at Selected. \$High. Analysis: [Progress bar], Dev: [Progress bar], Test: [Progress bar]. Day Selected: 7.

S13: Start at Selected. \$High. Analysis: [Progress bar], Dev: [Progress bar], Test: [Progress bar]. Day Selected: 9.

CFD Tracker: start at the Deployed column. Count the number of tickets between the red line and the black line. Add this number to the red data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the purple data points for yesterday and today with a red line.

CFD Tracker: start here: At the end of each day, count the number of tickets in this column. Add this number to the black data point on the CFD for yesterday. Track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

To fold this board, lift the middle then lift the sides

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9
Billing Cycle

Collect here tickets to be included in the
Day 12
Billing Cycle

Collect here tickets to be included in the
Day 15
Billing Cycle

Collect here tickets to be included in the
Day 18
Billing Cycle

Collect here tickets to be included in the
Day 21
Billing Cycle

To purchase this board game please visit: <http://getkanban.com>

1.2 Replenish the *Selected* column.

There is spare capacity in the Selected column, since the WIP limit on Selected is three and there are two tickets. So we can pull one ticket from *Options* into *Selected*.

We may choose any ticket from Options. We look through the brown standard tickets, and choose S13 since it is expected to be of \$High value, and it has less work than the other \$High value tickets.

We pull S13 into Selected, and update the Day Selected field with the current day, which is 9.

Step 1: Standup Meeting

Event Card
Pick up at the end of day:

9

Options

F1 Deal Day 22 for assets
Fixed Date: Deal Done on time: \$1,000 Low
Analysis: 0 Dev: 0 Test: 0
WIP Limit: 1

S11 \$Med
Analysis: 0 Dev: 0 Test: 0
WIP Limit: 1

I1 Automate deployments
Analysis: 0 Dev: 0 Test: 0
WIP Limit: 1

The getKanban Board Game v5

Selected WIP Limit 3	Analysis WIP Limit (Applies across both In Progress and Done) 2	Development WIP Limit (Applies across both In Progress and Done) 4	Test WIP Limit 3	Ready to Deploy No WIP Limit	Deployed No WIP Limit	
In Progress	Done	In Progress	Done			
<p>Expedite Lane Expedite tickets use this lane. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane.</p> <p>Lane WIP Limit: 1</p> <p>Pull tickets immediately. Expedited tickets do not wait in queues.</p>						
<p>S9 Start: Selected \$Med Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p> <p>S10 Start: Selected \$High Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p> <p>S13 Remember to \$High Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S8 Start: Analysis In Progress \$Med Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S7 Start: Analysis Done \$High Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S6 Start: Development In Progress \$High Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S3 Start: Development Done \$Med Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p> <p>S4 Start: Development Done \$High Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p> <p>S5 Start: Development Done \$Med Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S2 Start: Test \$Low Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>	<p>S1 Start: Ready to Deploy \$Low Analysis: 0 Dev: 0 Test: 0 WIP Limit: 1</p>

CFD Tracker: start at the Deployed column on the right-hand side of the board. Follow the instructions at the bottom of that column, then work your way left across the board.

Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the red line and the blue line. Add this number to the blue data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the red data points for yesterday and today with a red line.

Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.

Count the number of tickets in this column (between the green line and the black line). Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

CFD Tracker, start here: At the end of each day, count the number of tickets in this column. Add this number to the black data point on the CFD for yesterday. Track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

To fold this board, lift the middle then lift the sides

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9
Billing Cycle

Collect here tickets to be included in the
Day 12
Billing Cycle

Collect here tickets to be included in the
Day 15
Billing Cycle

Collect here tickets to be included in the
Day 18
Billing Cycle

Collect here tickets to be included in the
Day 21
Billing Cycle

To purchase this board game please visit: <http://getkanban.com>

1.3 Assign dice:

S2 has very little Test work remaining, and we should finish it today. Assign one green die to S2.

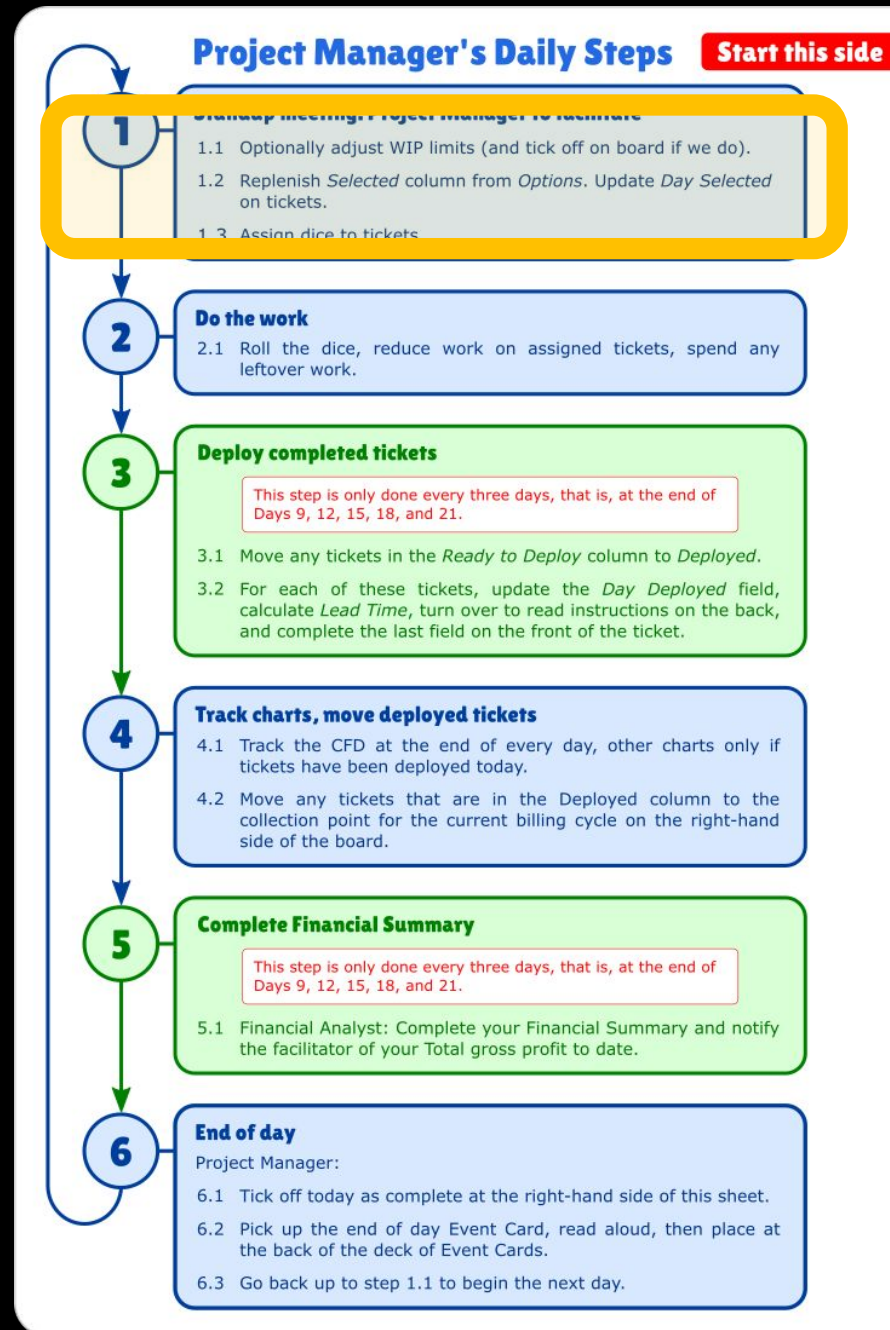
S4 has the highest value, and the least amount of work, so pull it into Test, and assign one green die to it.
Assign two blue dice to S6.

Pull S7 into Development In Progress, and assign a blue die.

Assign a red die to S8.

S9 is the oldest ticket in Selected. Pull it into Analysis In Progress, and assign a red die.

Step 2. Do the work



Event Card
Pick up at the end of day:

Figure 1 displays four screenshots of the F1, S11, and I1 interfaces, showing analysis results for different models. Each interface includes a table with columns for Analysis, Dev, Test, and various metrics like Recall, Precision, F1, and Time. The F1 interface also shows a 'Dev' column. The S11 and I1 interfaces show a 'Test' column. The I1 interface also shows a 'Time' column.

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WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

Collect here tickets
to be included in the

Day 9

Billing Cycle

Collect here tickets
to be included in the

Day 12

Billing Cycle

Collect here tickets
to be included in the

Day 15

Billing Cycle

Collect here tickets
to be included in the

Day 18

Billing Cycle

Collect here tickets
to be included in the

Day 21

Billing Cycle

To purchase this board game please visit: <http://getkanban.com>

The red die assigned to S8 rolled a 5. The red die assigned to S9 rolled a 4.



Options



The getKanban Board Game v5

Selected
WIP Limit: 3

Analysis
WIP Limit: 2 (Applies across both In Progress and Done)

Development
WIP Limit: 4 (Applies across both In Progress and Done)

Test
WIP Limit: 3

Ready to Deploy
No WIP Limit

Deployed
No WIP Limit

Expedite Lane
Expedite tickets use this lane. WIP Limit: 1. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane.

CFD Tracker: start at the Deployed column on the right-hand side of the board. Follow the instructions at the bottom of that column, then work your way left across the board.

Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the red line and the blue line. Add this number to the blue data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.

Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a green data point on the CFD for today. Join the green data points for yesterday and today with a green line.

Count the number of tickets between the green line and the yellow line. Add this number to the yellow data point on the CFD for today, and track the result as a yellow data point on the CFD for today. Join the yellow data points for yesterday and today with a yellow line.

Count the number of tickets between the yellow line and the black line. Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

start here: At the end of the number of tickets between the number to the black line on the CFD for yesterday, track the data point on the CFD for today. Join the black data points for yesterday and today with a black line.

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

① ② ③

Collect here tickets
to be included in the

Day 9

Billing Cycle

Collect here tickets
to be included in the

Day 12
Billing Cycle

Collect here tickets
to be included in the

Day 15
Billing Cycle

Collect here tickets
to be included in the

Day 18
Billing Cycle

Collect here tickets
to be included in the

Day 21
Billing Cycle

Pull ticket S3 from Development Done into Test, and strike two dots of Test work from it.

Step 2: Do the work

9

Event Card
Pick up at the end of day:

Options

F1 Deal Day 22 for audit
Fixed Date on line: \$1,000 Fee.
Analysis: [dots]
Dev: [dots]
Test: [dots]

S11 \$Med
Analysis: [dots]
Dev: [dots]
Test: [dots]

I1 Automate deployments
Analysis: [dots]
Dev: [dots]
Test: [dots]

The getKanban Board Game v5

Selected WIP Limit 3	Analysis WIP Limit (Applies across both In Progress and Done) 2		Development WIP Limit (Applies across both In Progress and Done) 4		Test WIP Limit 3	Ready to Deploy No WIP Limit	Deployed No WIP Limit
	In Progress	Done	In Progress	Done			
Expedite Lane Expedite tickets use this lane. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane.	Lane WIP Limit 1 Pull tickets immediately. Expedited tickets do not wait in queues.						
S10 Start at: Selected \$High Analysis: [dots] Dev: [dots] Test: [dots] 7	S8 Start at: Analysis In Progress \$Med Analysis: [dots] Dev: [dots] Test: [dots] 6		S6 Start at: Development In Progress \$High Analysis: [dots] Dev: [dots] Test: [dots] 5		S2 Start at: Test \$Low Analysis: [dots] Dev: [dots] Test: [dots] 1	S1 Start at: Ready to Deploy \$Low Analysis: [dots] Dev: [dots] Test: [dots] 0	
S13 \$High Analysis: [dots] Dev: [dots] Test: [dots] 9	S9 Start at: Selected \$Med Analysis: [dots] Dev: [dots] Test: [dots] 6		S7 Start at: Analysis Done \$High Analysis: [dots] Dev: [dots] Test: [dots] 5	S5 Start at: Development Done \$Med Analysis: [dots] Dev: [dots] Test: [dots] 3	S4 Start at: Development Done \$Med Analysis: [dots] Dev: [dots] Test: [dots] 3		
					S3 Start at: Ready to Deploy \$Low Analysis: [dots] Dev: [dots] Test: [dots] 2		

CFD Tracker: start at the Deployed column on the right-hand side of the board. Follow the instructions at the bottom of that column, then work your way left across the board.

Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the red line and the blue line. Add this number to the blue data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the red data points for yesterday and today with a red line.

Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.

Count the number of tickets between the green line and the black line. Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

At the end of the day, at the end of the number of tickets in number to the black line for yesterday. Track the black data points for yesterday and today with a black line.

To purchase tickets, visit getKanban.com

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9
Billing Cycle

Collect here tickets to be included in the
Day 12
Billing Cycle

Collect here tickets to be included in the
Day 15
Billing Cycle

Collect here tickets to be included in the
Day 18
Billing Cycle

Collect here tickets to be included in the
Day 21
Billing Cycle

Remove the spent die from the board.

The Test work on ticket S2 is complete now. Move ticket S2 to the Ready to Deploy column.

Now we will spend the work from the green die on S4. Strike the remaining four Test dots from S4.

We have one remaining point to spend. We will spend it on S3. Strike one further dot from S3.

Step 2: Do the work

9 Event Card
Pick up at the end of day:

Options

F1 Deal Day 22 for audit. Deal done on time: \$1,000 fine.
Analysis: [dots]
Dev: [dots]
Test: [dots]

S11 [dots] \$Med
Analysis: [dots]
Dev: [dots]
Test: [dots]

I1 Automate deployments.
Analysis: [dots]
Dev: [dots]
Test: [dots]

The getKanban Board Game v5

Selected WIP Limit 3	Analysis WIP Limit (Applies across both In Progress and Done) 2	Development WIP Limit (Applies across both In Progress and Done) 4	Test WIP Limit 3	Ready to Deploy No WIP Limit	Deployed No WIP Limit
In Progress Done	In Progress Done	In Progress Done			
Expedite Lane Expedite tickets use this lane. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane. Lane WIP Limit: 1 Pull tickets immediately. Expedited tickets do not wait in queues.					
S10 [dots] \$High Analysis: [dots] Dev: [dots] Test: [dots]	S8 [dots] \$Med Analysis: [dots] Dev: [dots] Test: [dots]	S6 [dots] \$High Analysis: [dots] Dev: [dots] Test: [dots]	S1 [dots] \$Low Analysis: [dots] Dev: [dots] Test: [dots]		
S13 [dots] \$High Analysis: [dots] Dev: [dots] Test: [dots]	S9 [dots] \$Med Analysis: [dots] Dev: [dots] Test: [dots]	S7 [dots] \$High Analysis: [dots] Dev: [dots] Test: [dots]	S2 [dots] \$Low Analysis: [dots] Dev: [dots] Test: [dots]		

Count the number of tickets between the purple line and the red line. Add this number to the blue data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the red line and the blue line. Add this number to the green data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the red data points for yesterday and today with a red line.

Count the number of tickets between the blue line and the black line. Add this number to the green data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.

Count the number of tickets in this column (between the green line and the black line). Add this number to the black data point on the CFD for today, and track the result as a green data point on the CFD for today. Join the green data points for yesterday and today with a green line.

CFD Tracker, start here: At the end of each day, count the number of tickets in this column. Add this number to the black data point on the CFD for yesterday. Track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

To fold this board, lift the middle then lift the sides

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WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1 2 3

Collect here tickets to be included in the
Day 9 Billing Cycle

Collect here tickets to be included in the
Day 12 Billing Cycle

Collect here tickets to be included in the
Day 15 Billing Cycle

Collect here tickets to be included in the
Day 18 Billing Cycle

Collect here tickets to be included in the
Day 21 Billing Cycle

To purchase this board game please visit: <http://getkanban.com>

Remove the spent die from the board.

The Test work on ticket S4 is complete now. Move ticket S4 to the Ready to Deploy column.

Now we will spend the work from the blue dice on S6. Strike five dots of Development work from S6.

Remove the spent dice from the board.

Now we will spend the work from the blue die on S7. Strike four dots of Development work from S7.

Remove the spent die from the board.



Options

F1 Due Day 15 for audit.
If not done on time: \$1,100 fine.

Task	Days Required	Days Selected	Last Time	Print
Analysis	4	4	4	Print
Dev	3	3	3	Print
Test	5	5	5	Print

The screenshot shows a project dashboard for 'S11 \$Med'. It includes a Gantt chart with three rows: 'Analysis' (red), 'Dev' (blue), and 'Test' (green). The chart shows task durations with circles indicating milestones. Below the chart, there are four input fields for 'Days Scheduled', 'Days Searched', 'Lead Time', and 'Subscribers', each with a corresponding circle icon.

I1 Automate deployments

Stage	Step	Time
Analysis	Analysis	2 min
Dev	Dev 1	2 min
	Dev 2	2 min
	Dev 3	2 min
	Dev 4	2 min
Test	Test 1	2 min
	Test 2	2 min

Dev (Deployed) = Dev (Selected) = Lead Time = Test pass for all items which are deployed

The getKanban Board Game v5

Selected
WIP Limit: 3

Analysis
WIP Limit: 2 (Applies across both In Progress and Done)

Development
WIP Limit: 4 (Applies across both In Progress and Done)

Test
WIP Limit: 3

Ready to Deploy
No WIP Limit

Deployed
No WIP Limit

Expedite Lane
Expedite tickets use this lane. Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days. Column WIP limits do not apply to this lane.

CFDP Tracker
Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFDP for today, and track the result as a purple data point on the CFDP for today. Join the purple data points for yesterday and today with a purple line.

CFDP Tracker
Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFDP for today, and track the result as a blue data point on the CFDP for today. Join the blue data points for yesterday and today with a blue line.

CFDP Tracker
Count the number of tickets in this column (between the green line and the black line). Add this number to the black data point on the CFDP for yesterday, and track the result as a black data point on the CFDP for today. Join the black data points for yesterday and today with a black line.

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

① ② ③

Collect here tickets
to be included in the

Day 9

Billing Cycle

Collect here tickets
to be included in the

Day 12

Billing Cycle

Collect here tickets
to be included in the

Day 15

Billing Cycle

Collect here tickets
to be included in the

Day 18

Billing Cycle

Collect here tickets
to be included in the

Day 21

Billing Cycle

Now we will spend the work from the red **Strike 5 dots of Analysis work from S8.**

Remove the spent die from the board.

Now we will spend the work on S9. Strike the three remaining dots of Analysis work from S9.

Remember that we have one point left over. We will record this on the board while we consider how to spend it. Write “1” to represent the left over point in the Analysis In Progress column.

Remove the spent die from the board.

Event Card

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To purchase this board game please visit: <http://getkanban.com>

Day 21
Billing Cycle

CFD Tracker, start here: At the end of each day, count the number of tickets in this column. Add this number to the black data point on the CFD for yesterday. Track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

result as a green data point on the CFD for today. Join the green data points for yesterday and today with a green line.

Now we can pull S10 into Analysis In Progress and spend the leftover point on it.



Options



The getKanban Board Game v5

Selected
WIP Limit: 3

Analysis
WIP Limit: 2
(Applies across both In Progress and Done)

Development
WIP Limit: 4
(Applies across both In Progress and Done)

Test
WIP Limit: 3

Ready to Deploy
No WIP Limit

Deployed
No WIP Limit

Expedite Lane
WIP Limit: 1
Expedite tickets use this lane.
Fixed Delivery Date tickets may be promoted to this lane if due in less than 3 days.
Column WIP limits do not apply to this lane.

Ticket Details:

- S13** (Selected): Analysis, Dev, Test. \$High. 9 tickets.
- S8** (Analysis): Analysis, Dev, Test. \$Med. 6 tickets.
- S10** (Analysis): Analysis, Dev, Test. \$High. 7 tickets.
- S6** (Development): Analysis, Dev, Test. \$High. 4 tickets.
- S7** (Development): Analysis, Dev, Test. \$High. 5 tickets.
- S9** (Development): Analysis, Dev, Test. \$Med. 6 tickets.
- S5** (Test): Analysis, Dev, Test. \$Med. 3 tickets.
- S3** (Test): Analysis, Dev, Test. \$Med. 2 tickets.
- S1** (Ready to Deploy): Analysis, Dev, Test. \$Low. 1 ticket.
- S2** (Ready to Deploy): Analysis, Dev, Test. \$Low. 1 ticket.
- S4** (Test): Analysis, Dev, Test. \$High. 3 tickets.

CFD Tracker: start at the Deployed column on the right-hand side of the board. Follow the instructions at the bottom of that column, then work your way left across the board.

Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a green data point on the CFD for today. Join the green data points for yesterday and today with a green line.

Count the number of tickets between the blue line and the black line. Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

CFD Tracker, start here: At the end of each day, count the number of tickets in this column. Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

① ② ③

Day 9

Billing Cycle

Day 12

Billing Cycle

Day 15
Billing Cycle

Day 18

Billing Cycle

Day 21

Billing Cycle

We have spent the leftover point, so wipe the number “1” from the board.

Check that your board now looks exactly the same as this one.

To purchase this board game please visit: <http://getkanban.com>

Dice Rules

All dice must be assigned before any dice are rolled.

Once assigned, dice may be rolled and work struck off in any order. You do not have to start in Test.

Multiple dice may be assigned to a single ticket, but if more than two dice are assigned to a single ticket, any leftover points must be disregarded.

Any leftover points must be spent in the same specialization that the die was originally rolled for.

Ticket Rules

Tickets may be selected from Options in any order you wish.

Tickets may be pulled across the board in any order.

The Selected column must be filled to its WIP limit at every standup (note that you may change the WIP limit).

Tickets may be moved downstream (as long as WIP limits are not exceeded) in order to make room upstream to pull tickets) *

* See caveat 6 at the beginning of this slide deck

Step 3: Deploy completed tickets

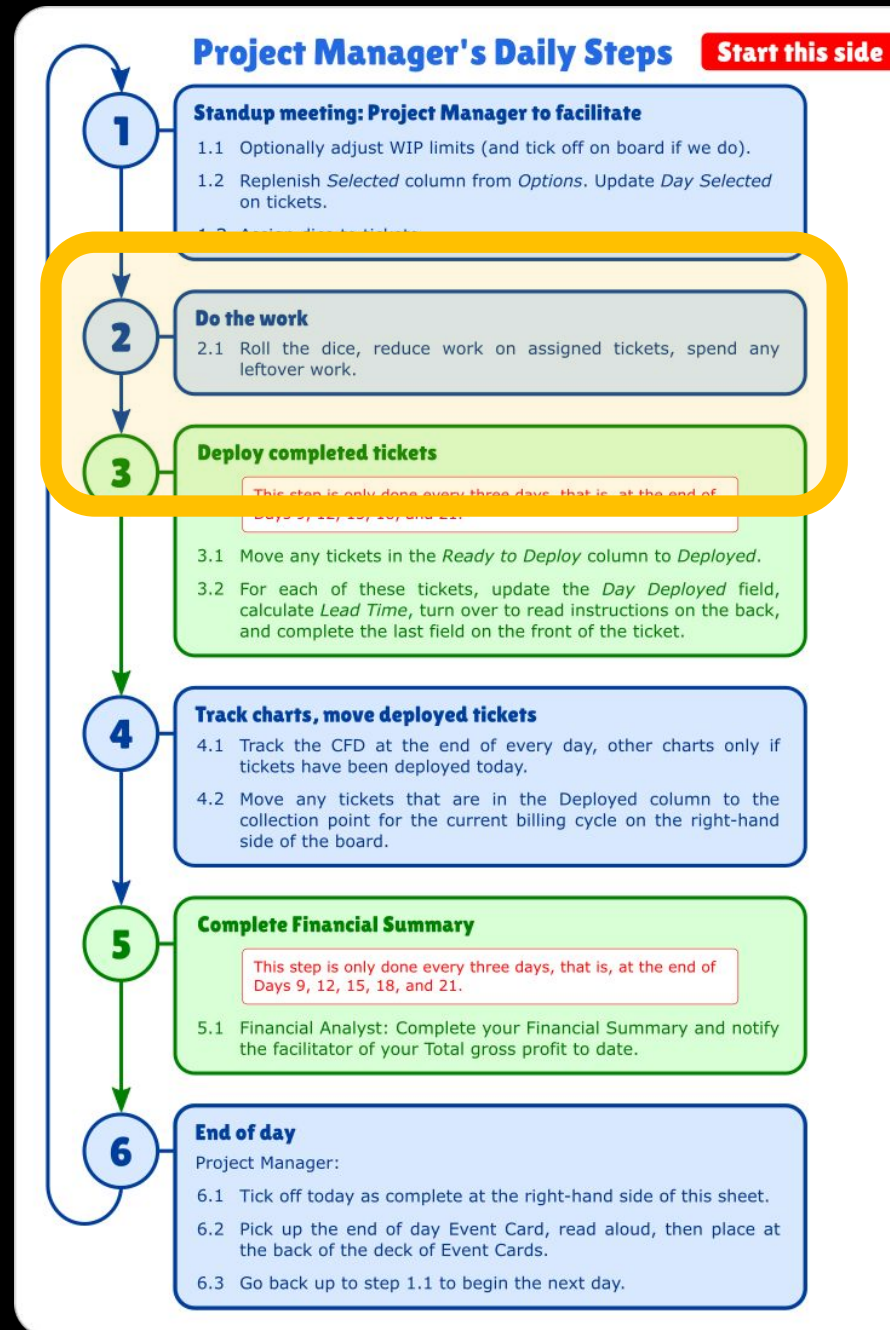
We are about to go to Step 3 in the Project Manager's Daily Steps guide.

Important: we only do Step 3 at the end of a billing cycle, that is, at the end of every third day.

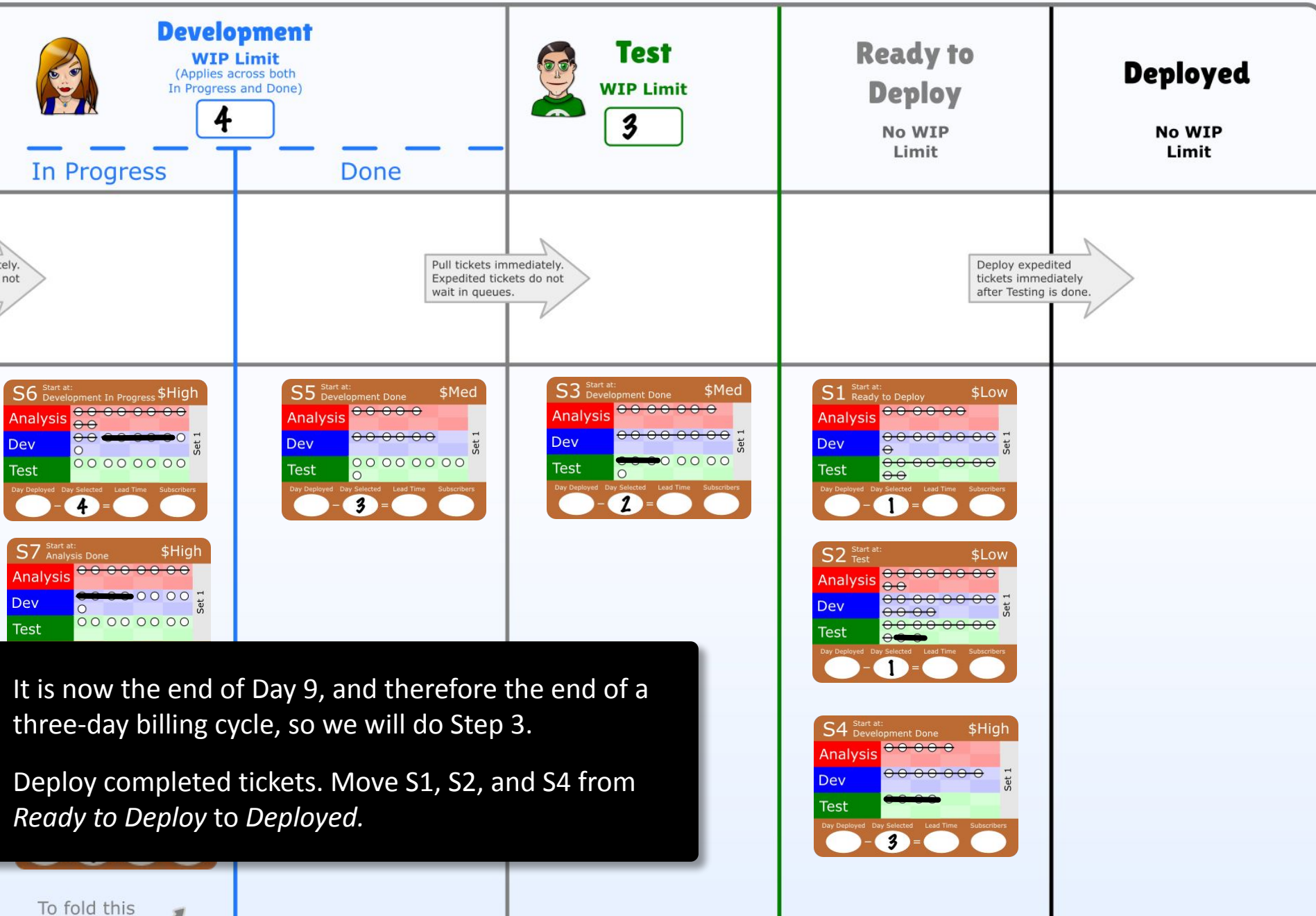
At the end of the billing cycle we:

- deploy our software, with any newly completed features;
- bill our customers, and calculate our financials.

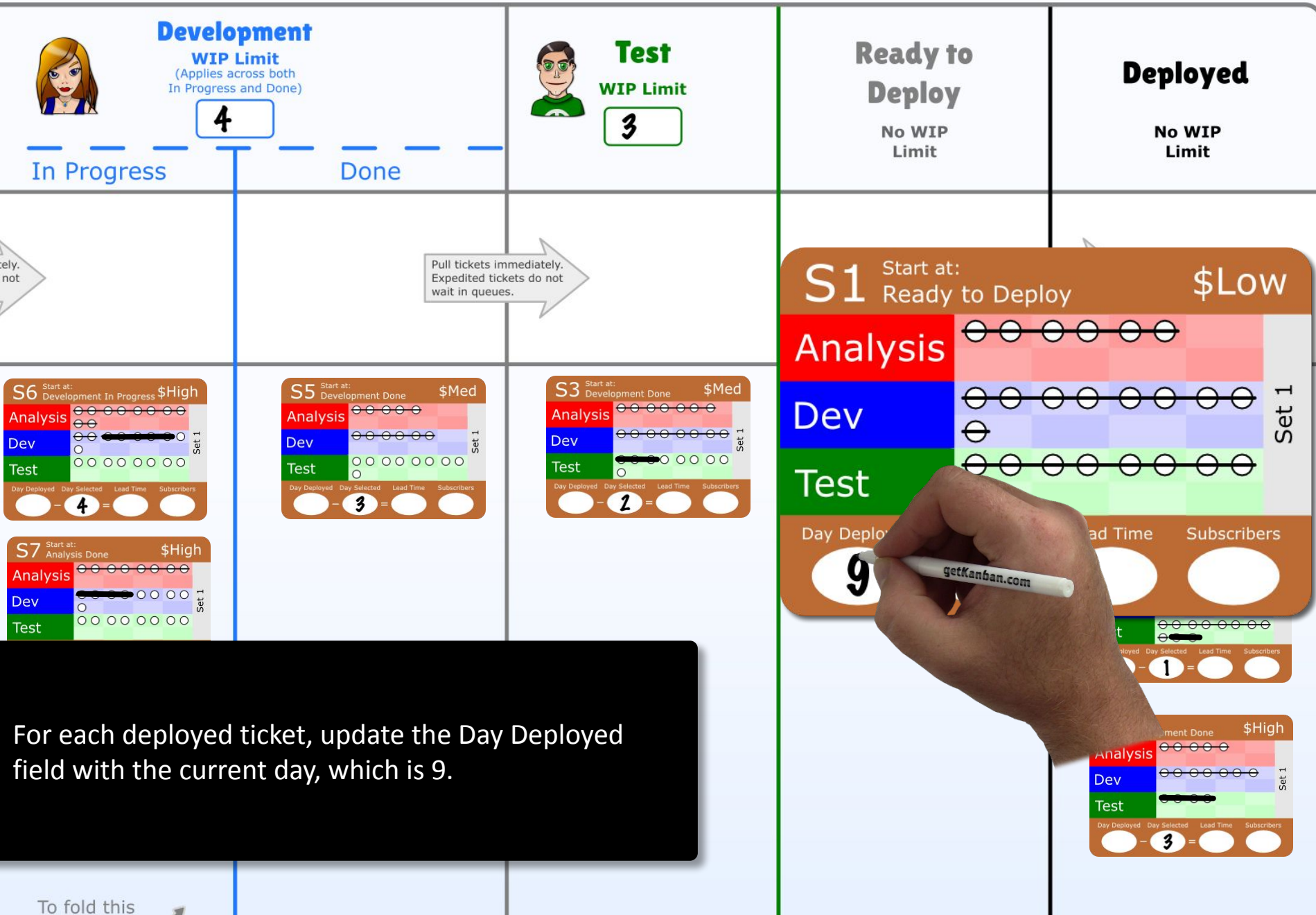
Step 3. Deploy completed tickets



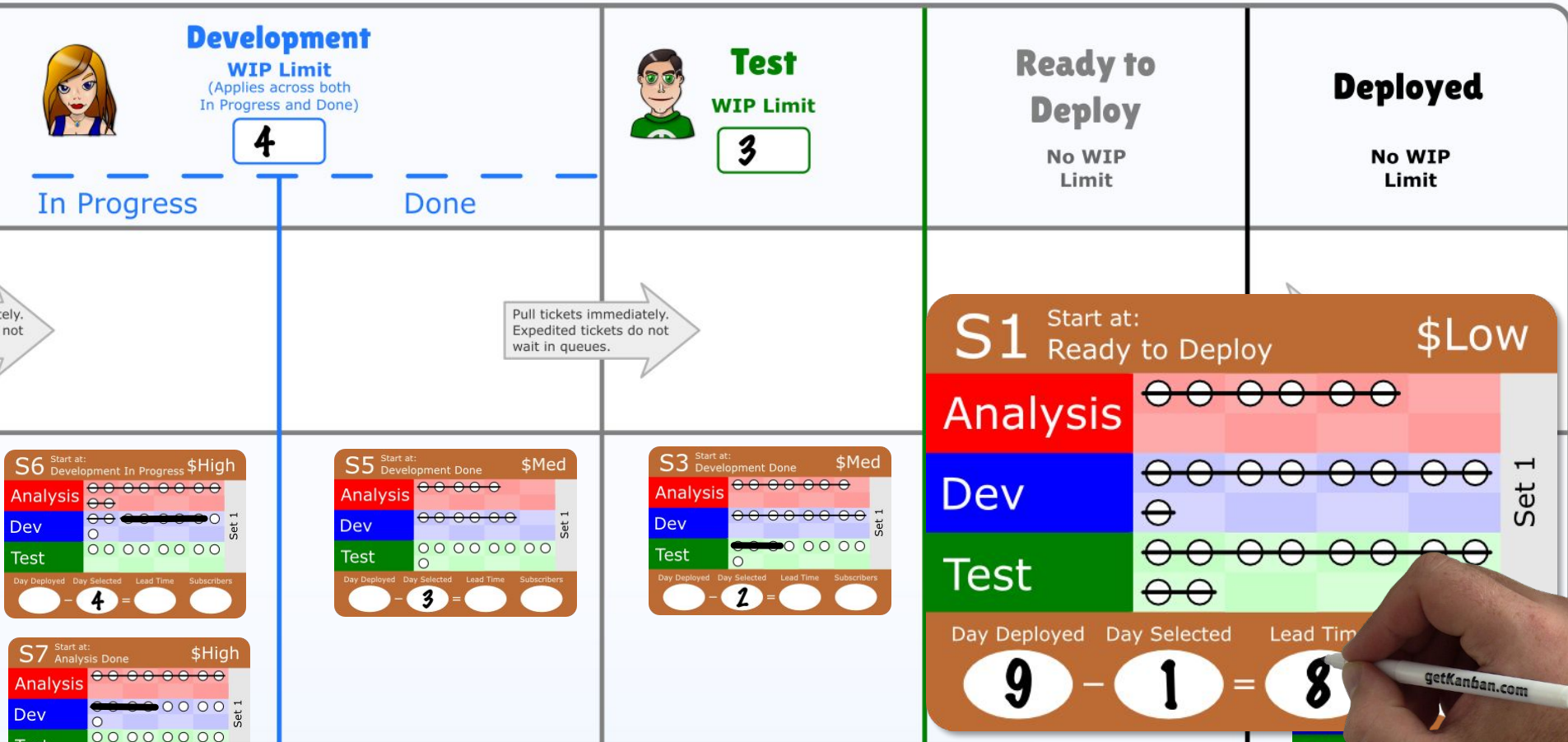
Step 3: Deploy completed tickets



Step 3: Deploy completed tickets



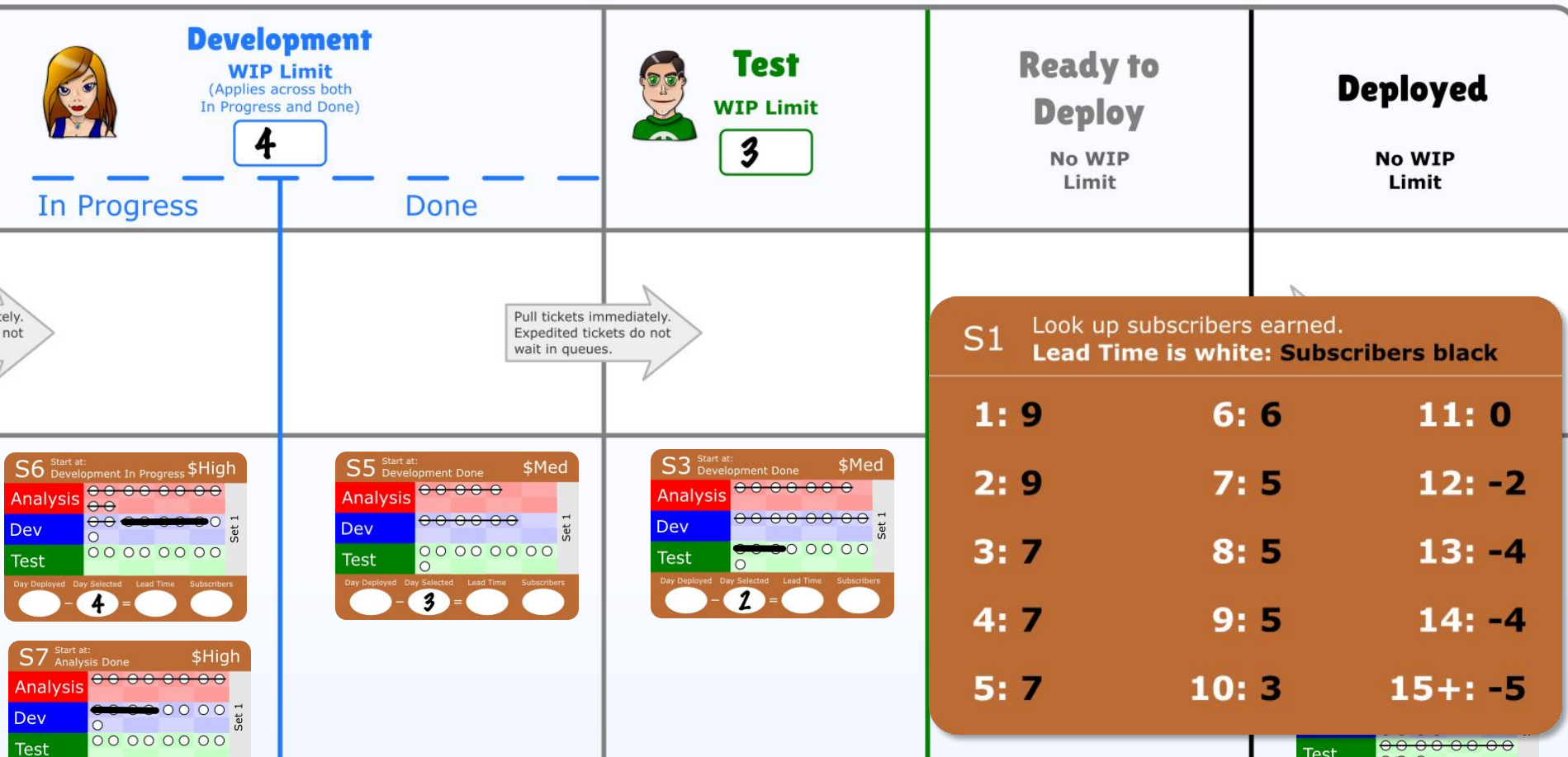
Step 3: Deploy completed tickets



For each deployed ticket, calculate Lead Time using the formula on the front of the ticket (Day Deployed - Day Selected = Lead Time) and update the Lead Time field.

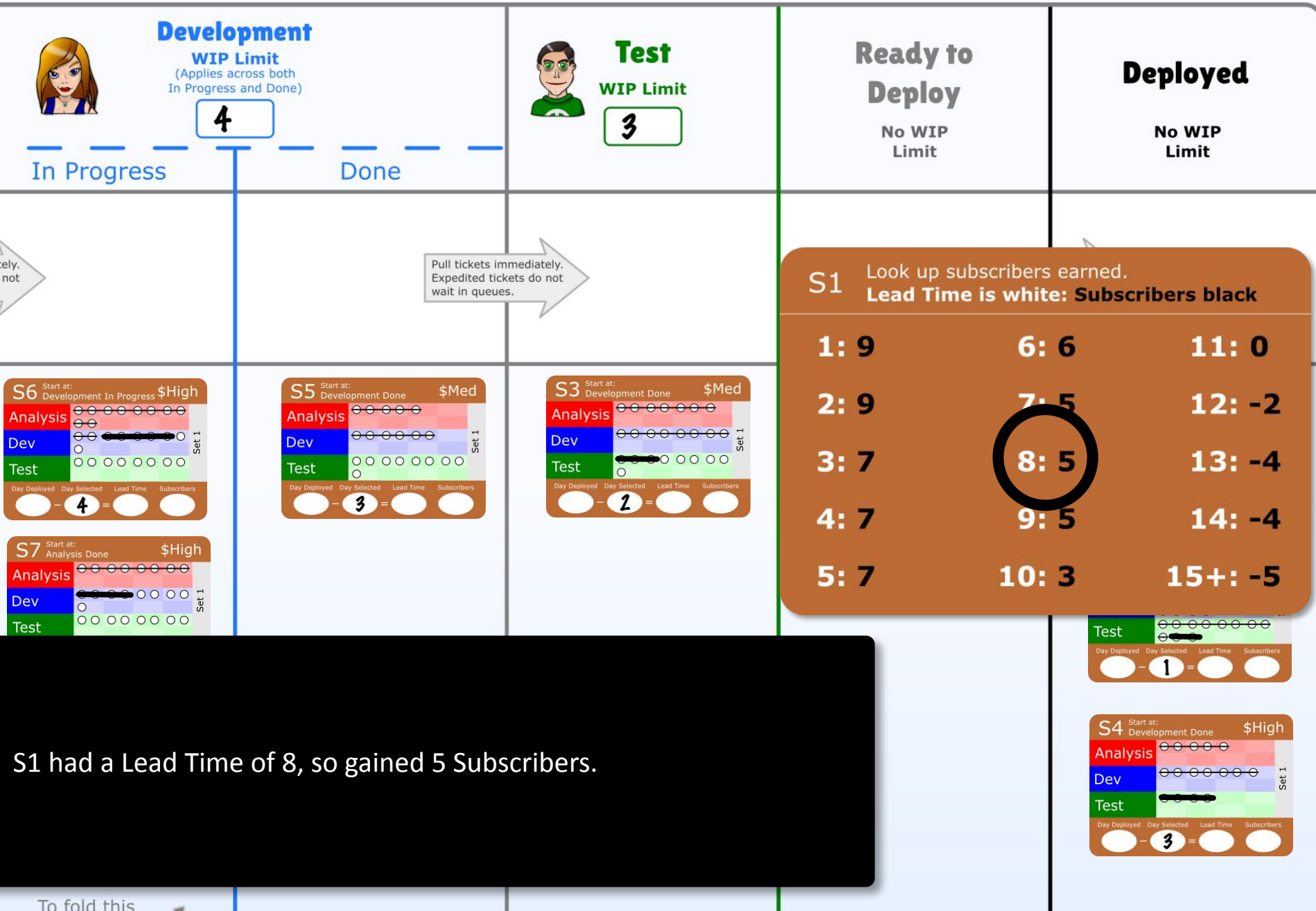
The Day Selected for S1 was 1, and the Day Deployed was 9, so Lead Time is $9 - 1 = 8$ days.

Step 3: Deploy completed tickets

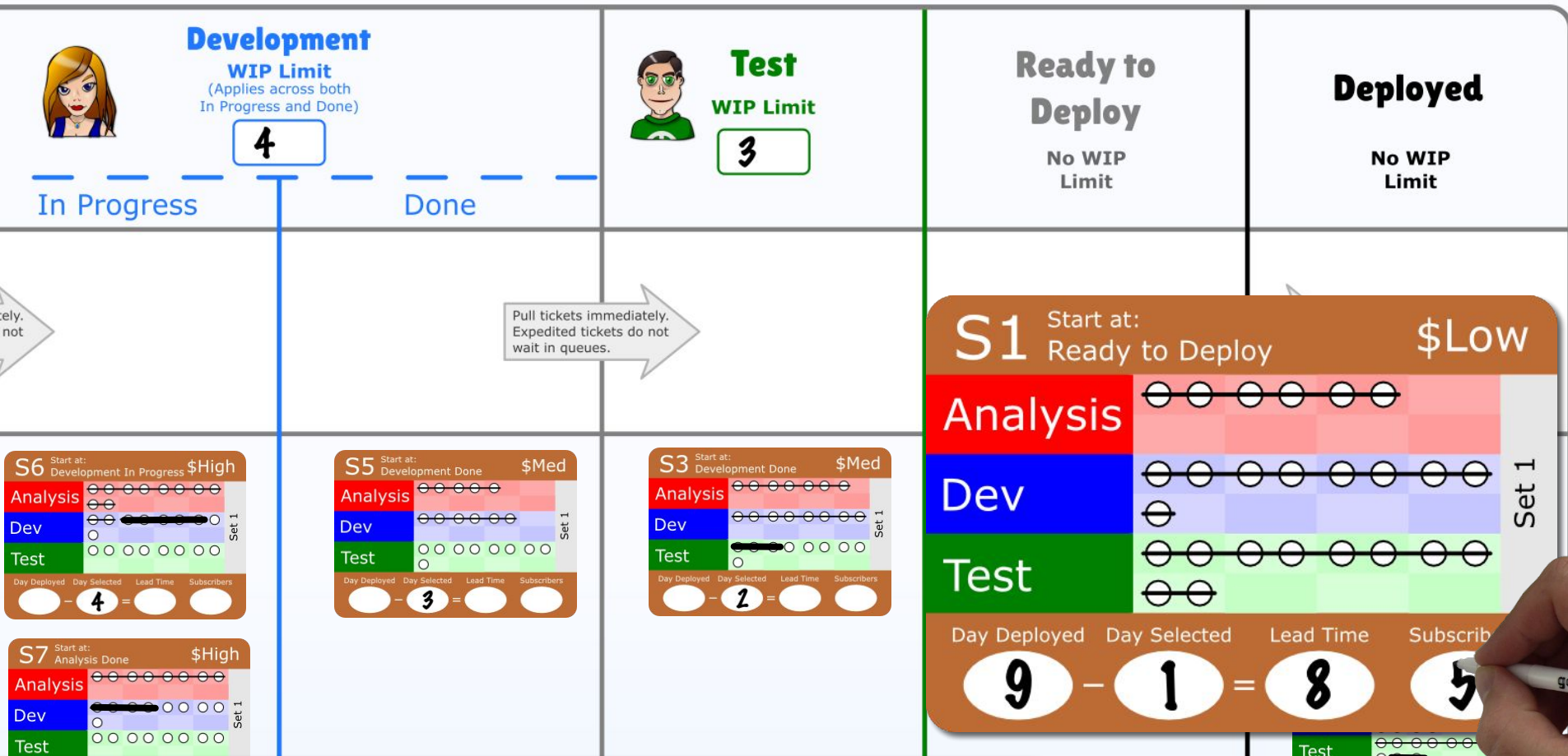


Turn each of the deployed tickets over and look up the Lead Time in the table provided, then find the associated number of Subscribers earned.

Step 3: Deploy completed tickets

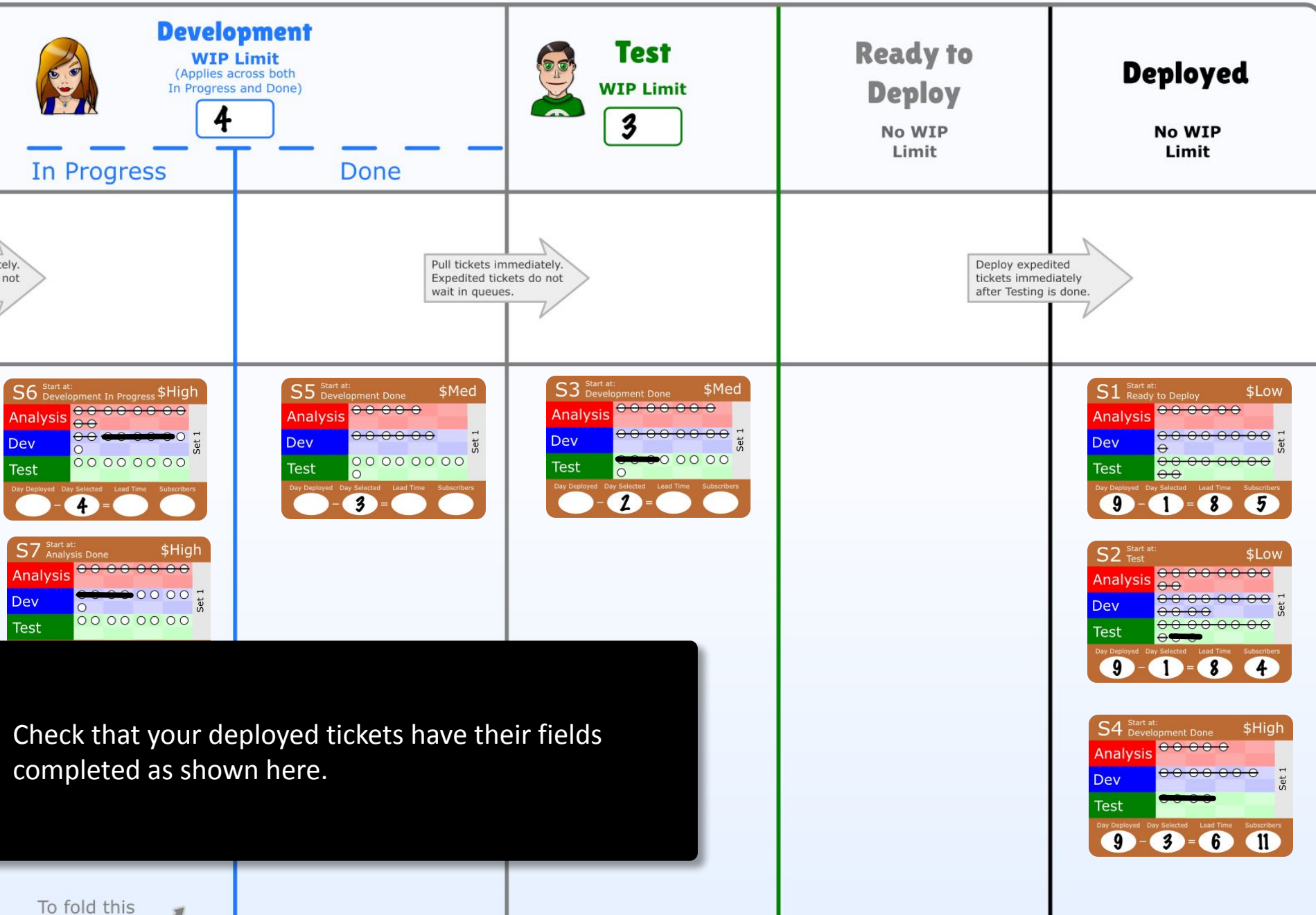


Step 3: Deploy completed tickets



Turn the ticket back over, and write the number of Subscribers earned in the last field on the ticket.

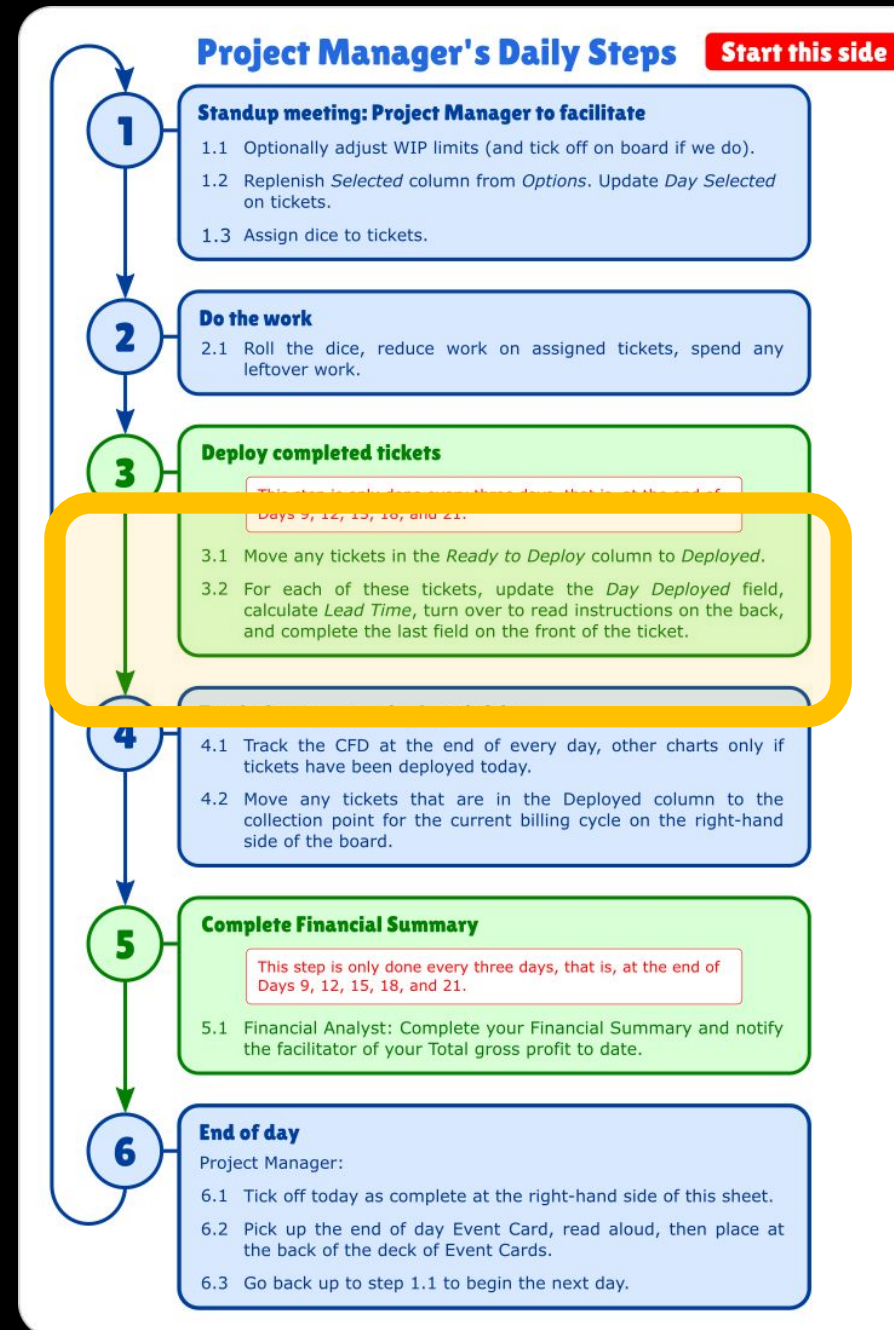
Step 3: Deploy completed tickets



Quickly examine the backs of the tickets we just deployed to see the relationship between Lead Time and subscribers gained.

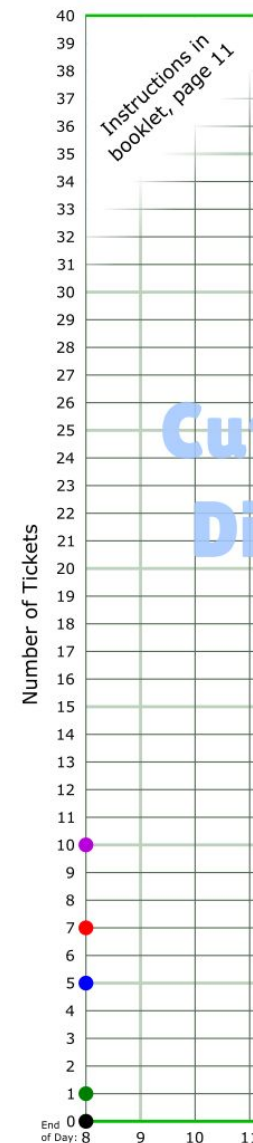
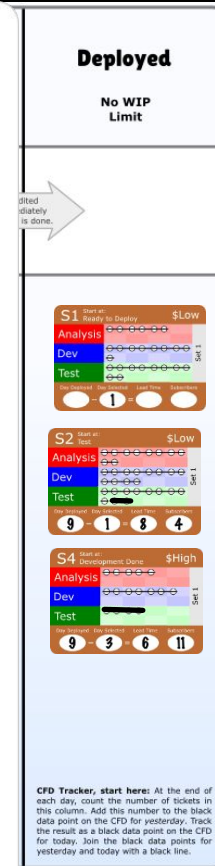
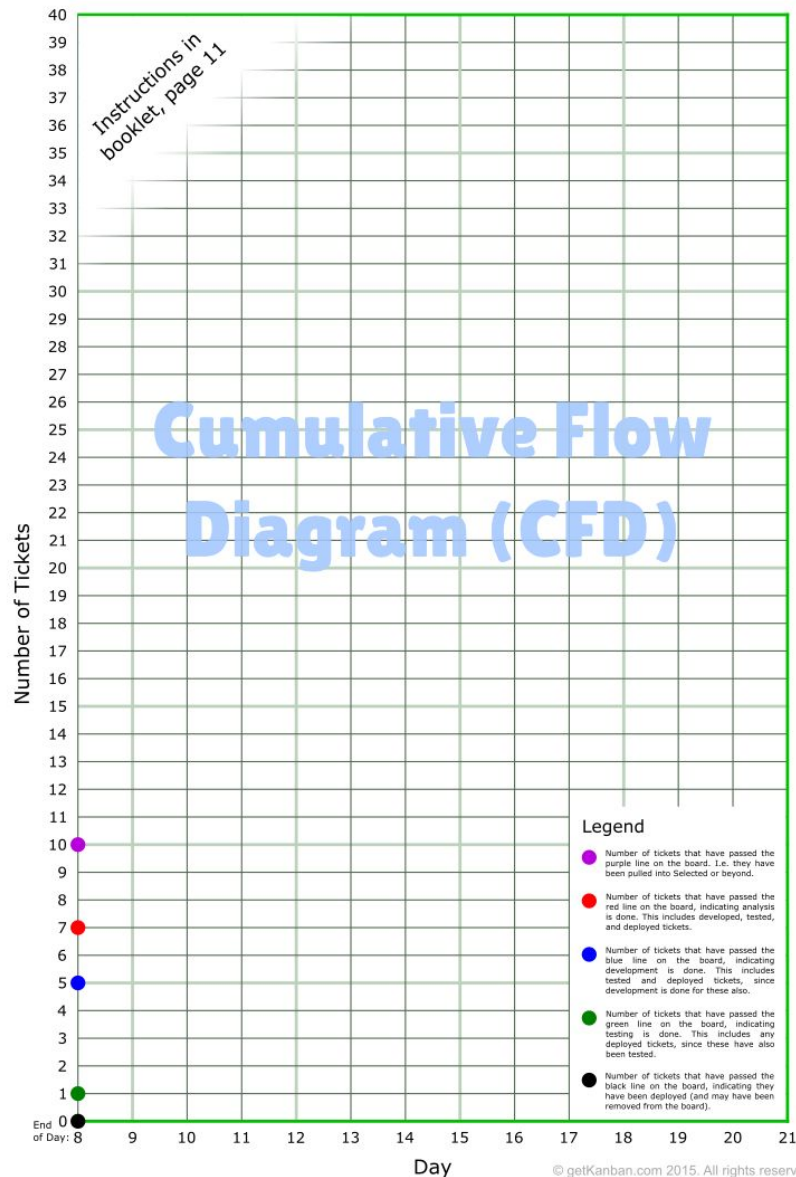
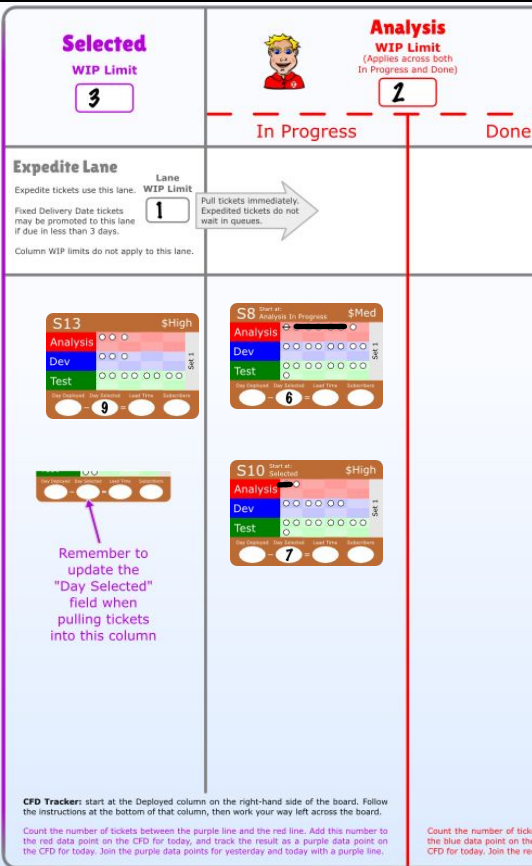
Notice that the lower the Lead Time, the higher the number of subscribers gained.

Step 4. Track charts, move deployed tickets

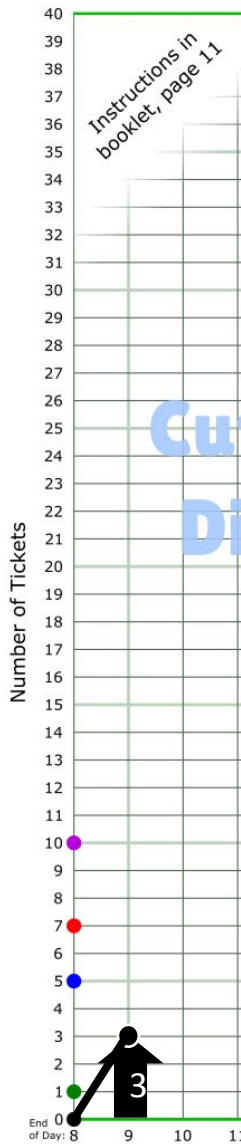
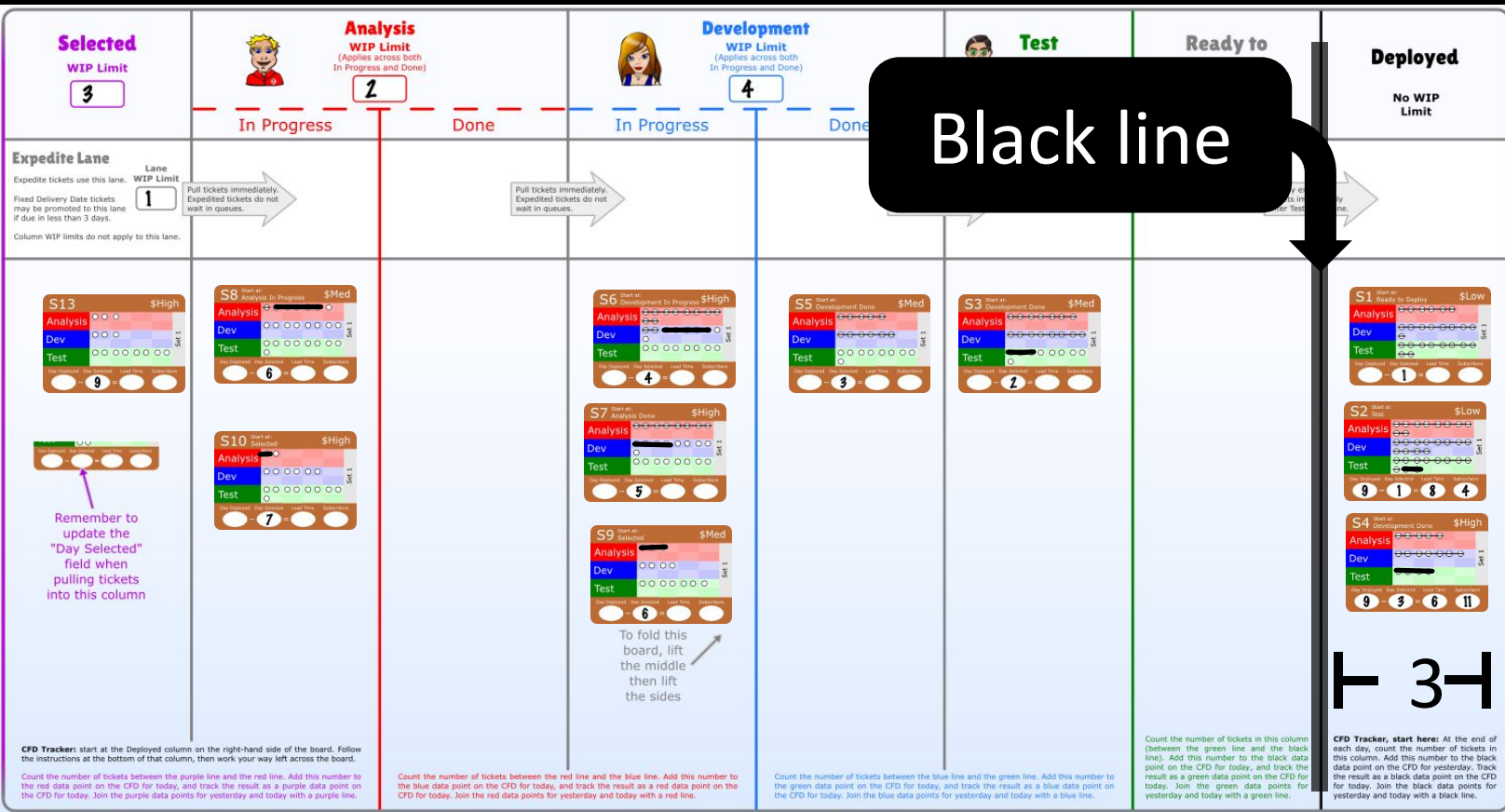


First we will track the CFD

Step 4.1: Track the CFD



Step 4.1: Track the CFD



Three tickets passed the black line and were deployed on Day 9.

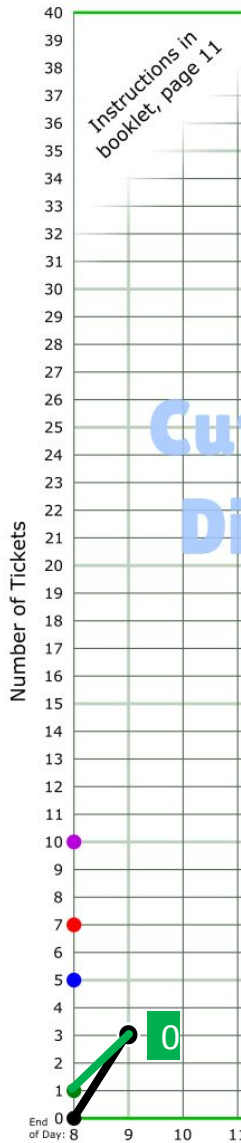
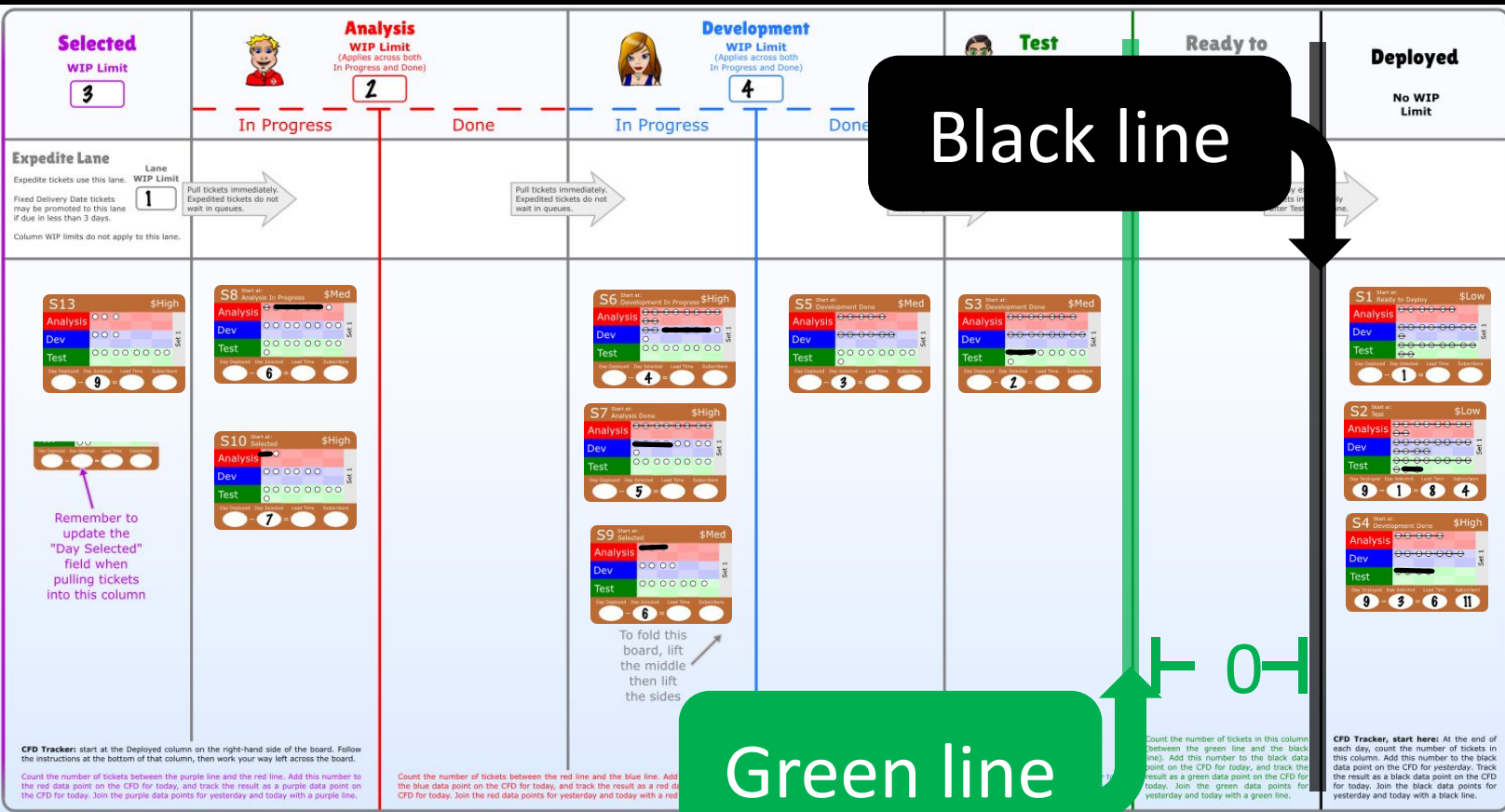
Count up 3 from the value of the black point on the CFD from yesterday (which was zero).

Track a black data point at 3 for Day 9.

Join the black points with a black line.

We can see from the black line on the CFD that zero tickets were deployed at the end of Day 8, and three tickets were deployed at the end of Day 9.

Step 4.1: Track the CFD

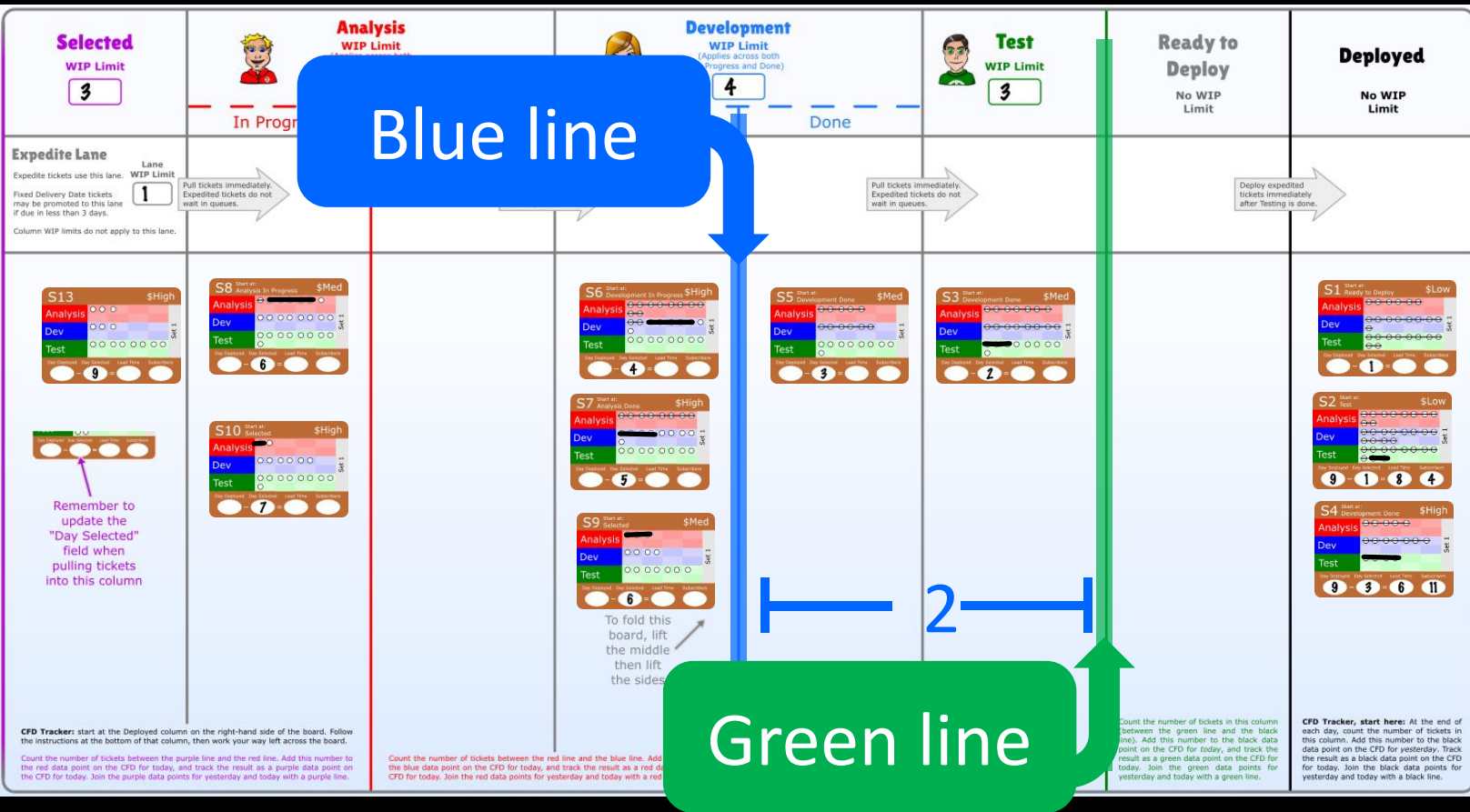


There are zero tickets between the green line and the black line on the board ...

... so we count up zero from the black point on the CFD for today, which is 3.

Track a green data point at 3 at the end of Day 9, and join the green points with a green line.

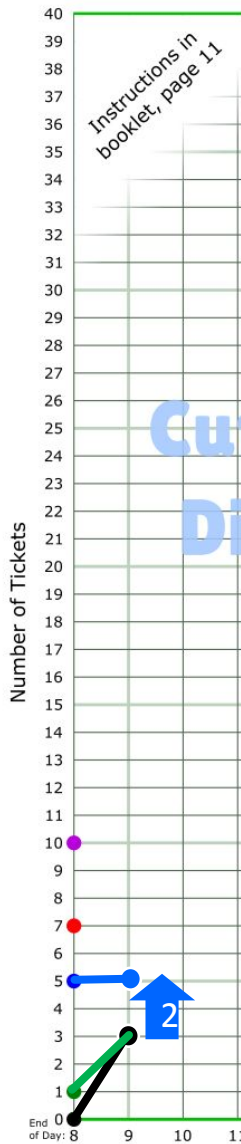
Step 4.1: Track the CFD



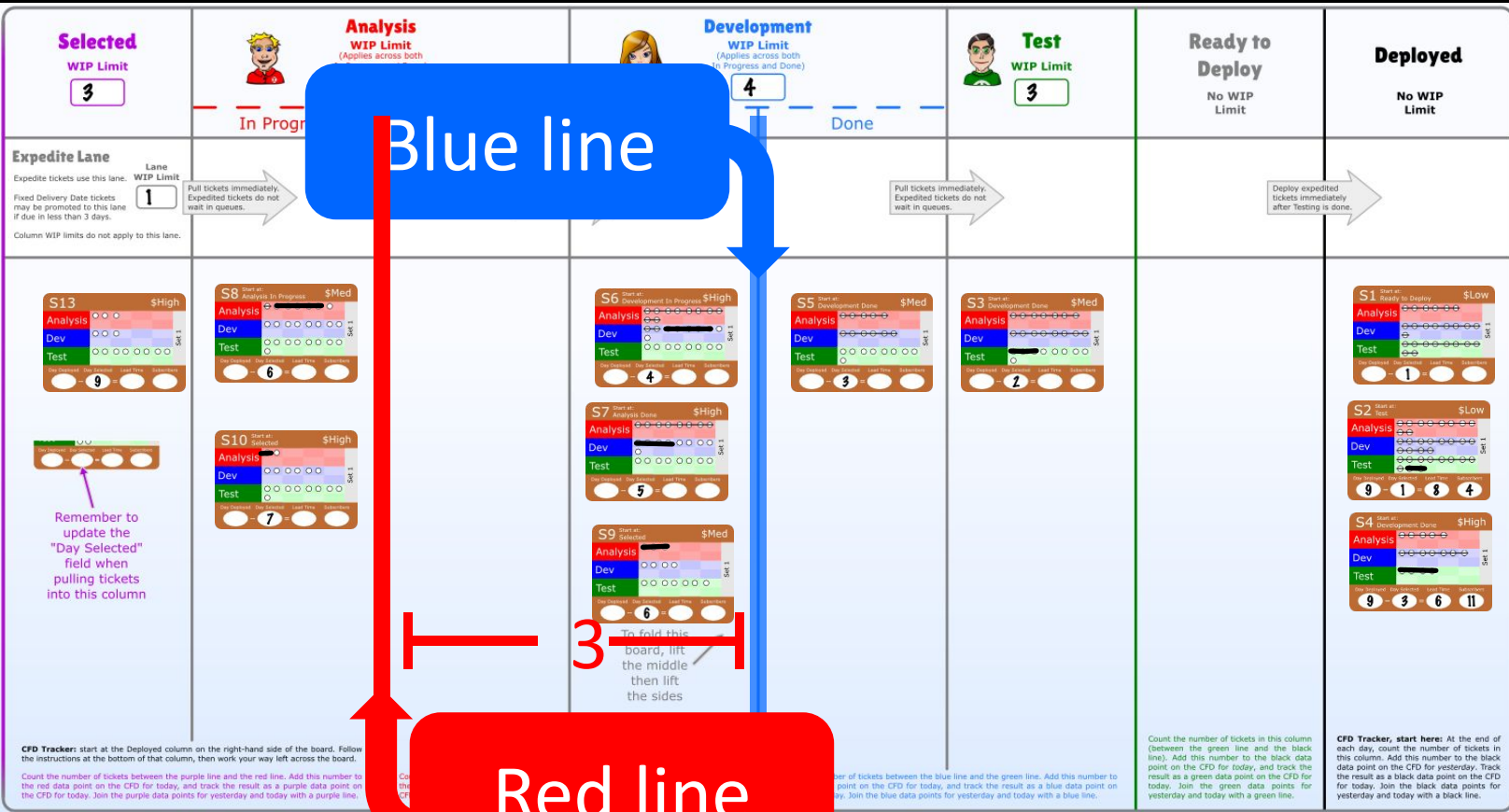
There are two tickets between the blue line and the green line on the board ...

... so we count up 2 from the green point, and track a blue point on the CFD.

Join the blue points with a blue line.



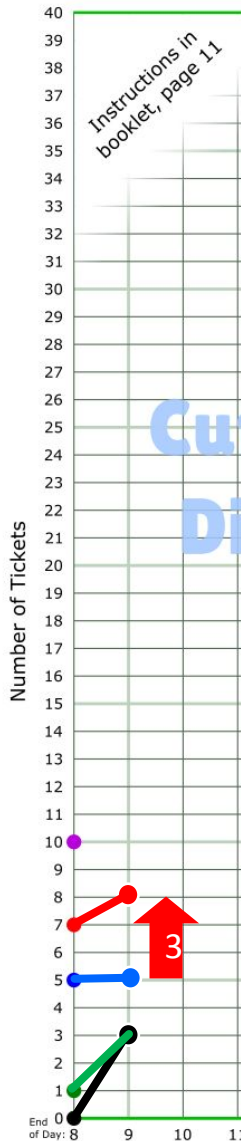
Step 4.1: Track the CFD



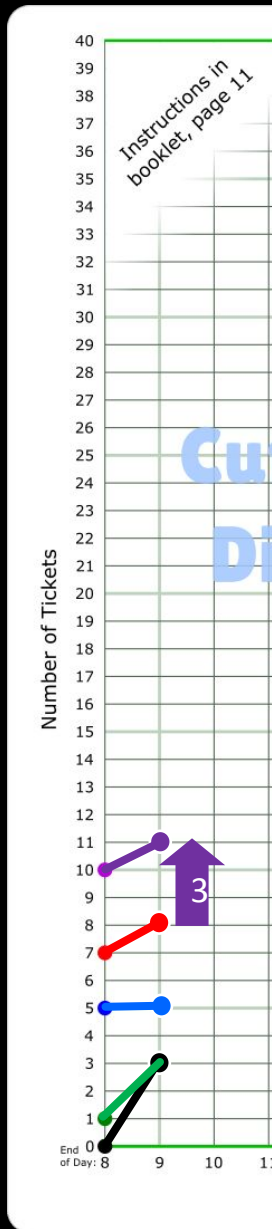
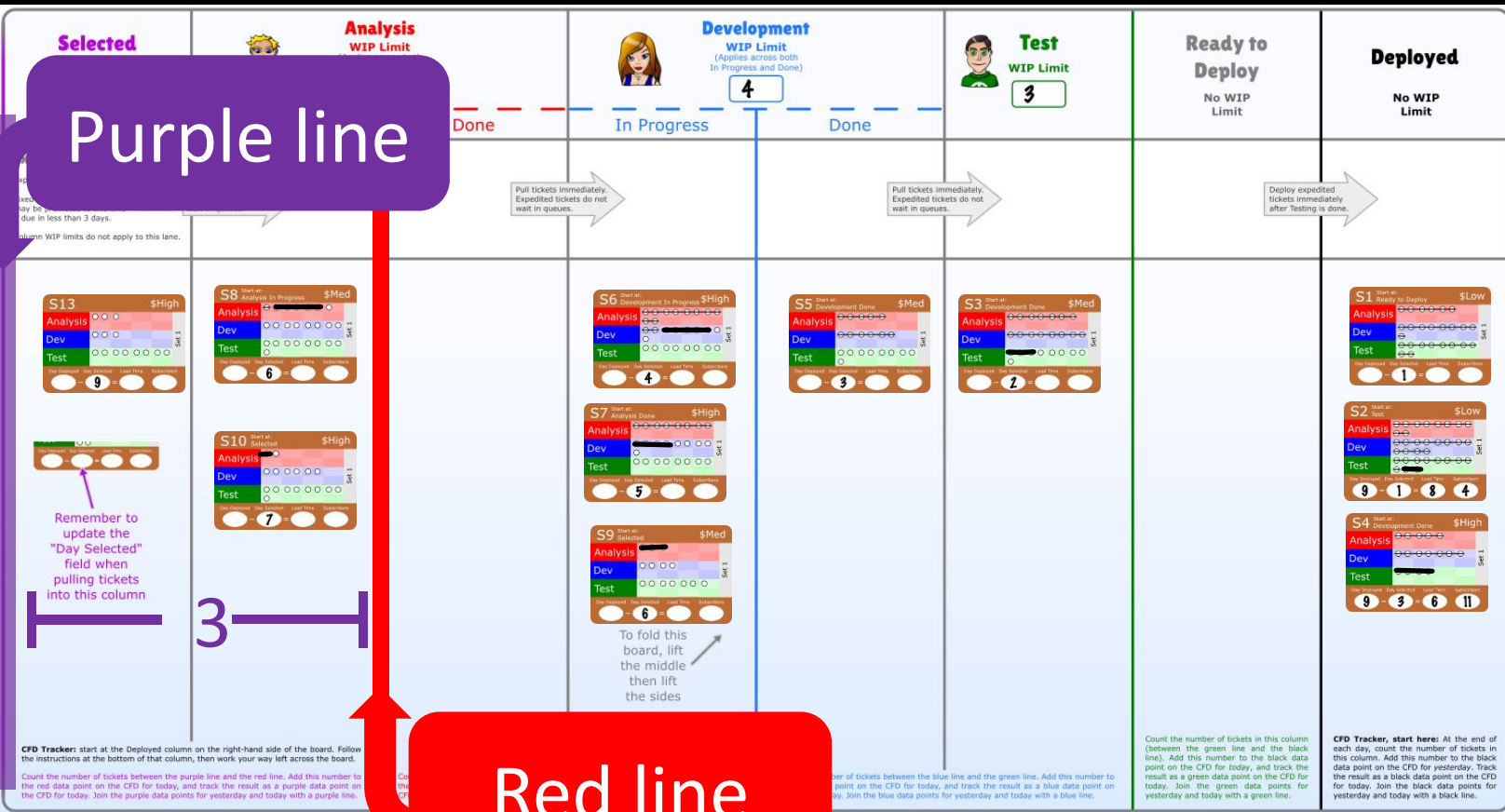
There are three tickets between the red line and the blue line on the board ...

... so we count up 3 from the blue point, and track a red point on the CFD.

Join the red points with a red line.



Step 4.1: Track the CFD



There are three tickets between the purple line and the red line on the board ...

... so we count up 3 from the red point to the purple point on the CFD.

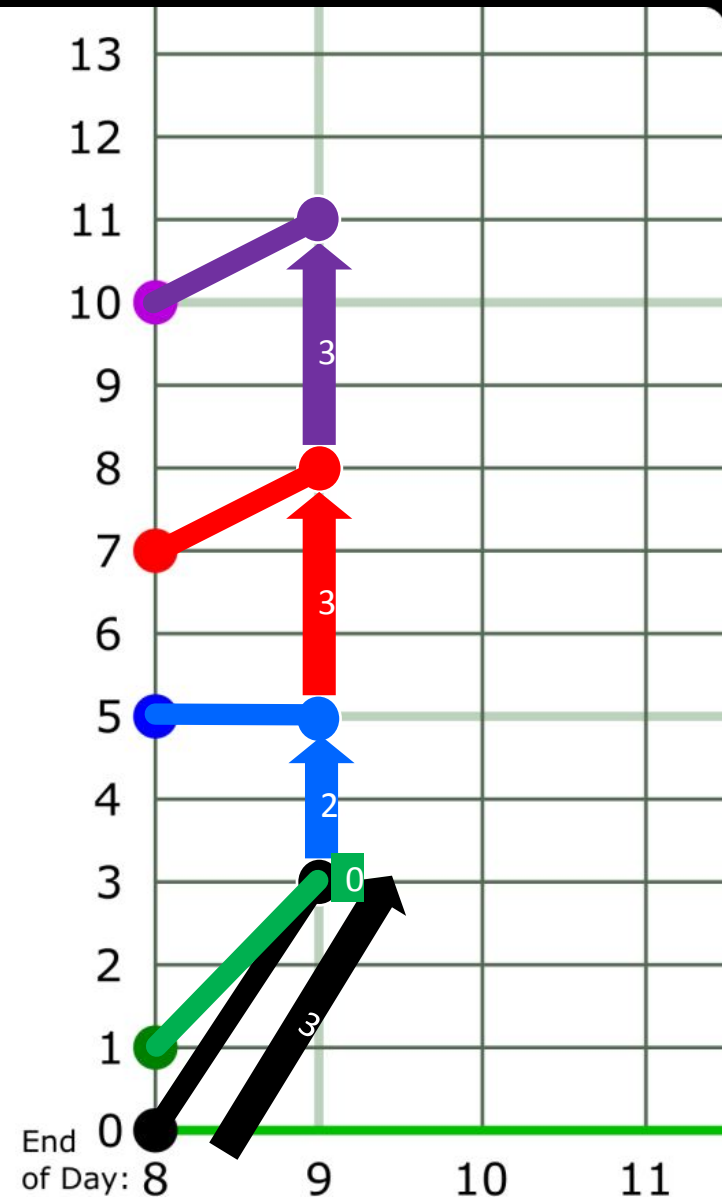
Join the purple points with a purple line.

We can see from the CFD that eleven tickets have entered the board as at the end of Day 9.

Notice that when we track the **black** line we add the number of tickets deployed today to **yesterday's** black point.

For **all other colors** we count up from the color **below**

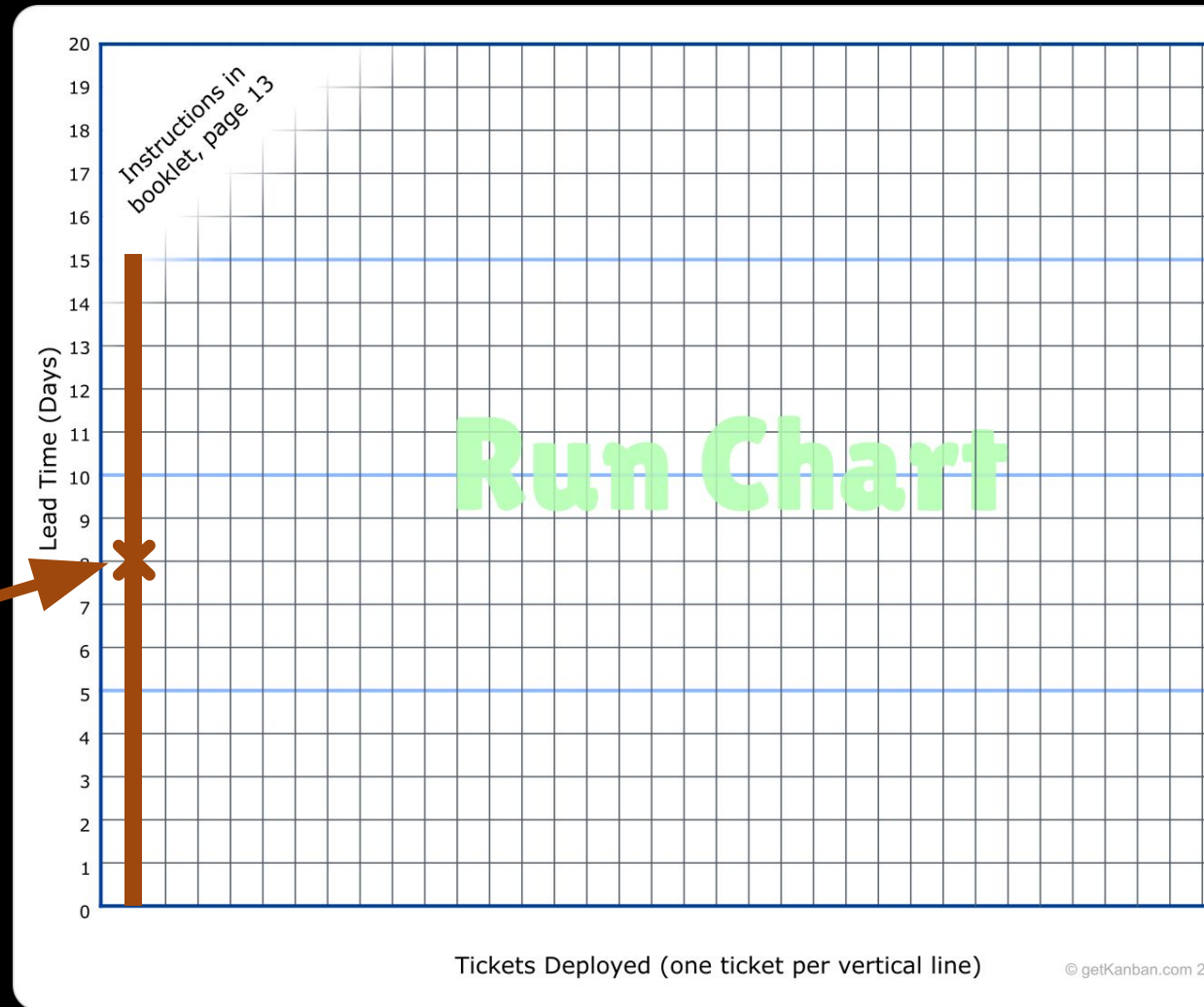
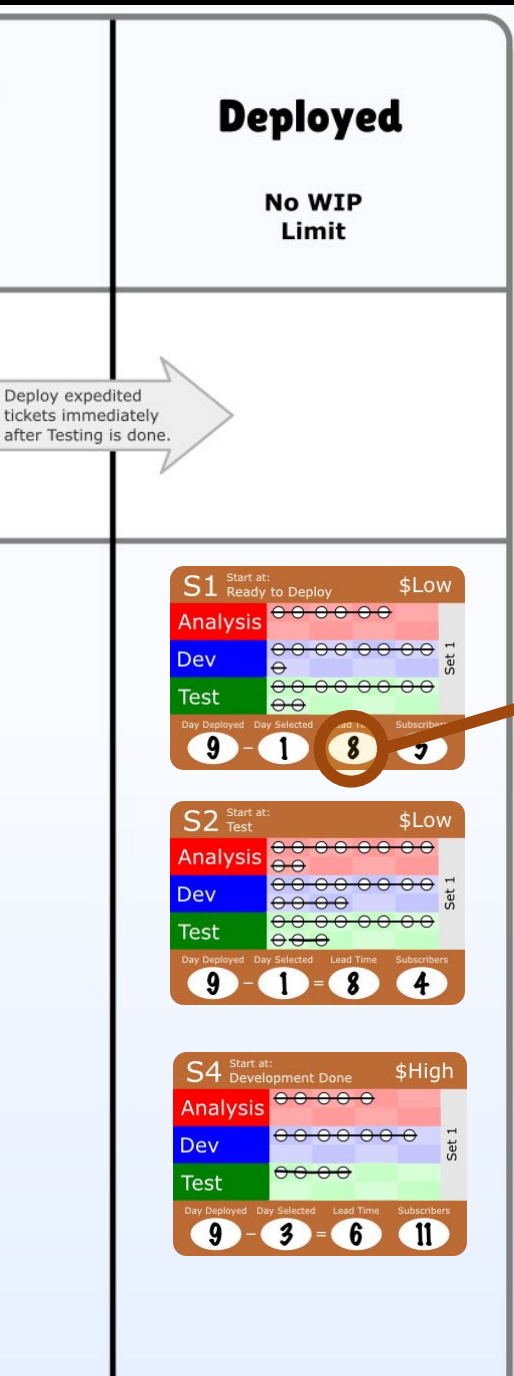
(where the color below is the color immediately to the right on the CFD)



We track the CFD every day

Now we will track the Run Chart

Step 4.1: Track the Run Chart



The Lead Time for each deployed ticket is tracked on one vertical line on the Run Chart. Use the same color marker as the ticket.

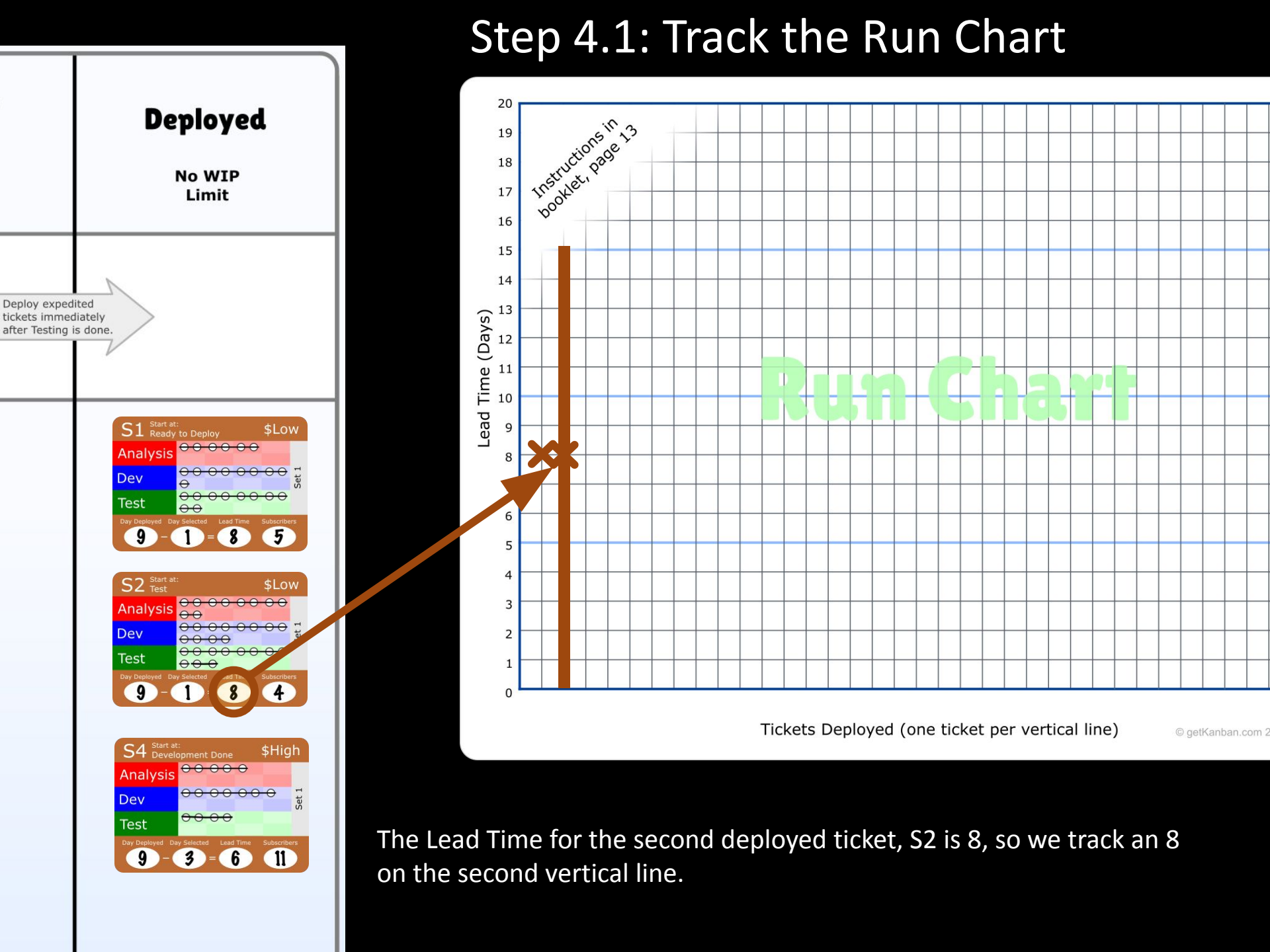
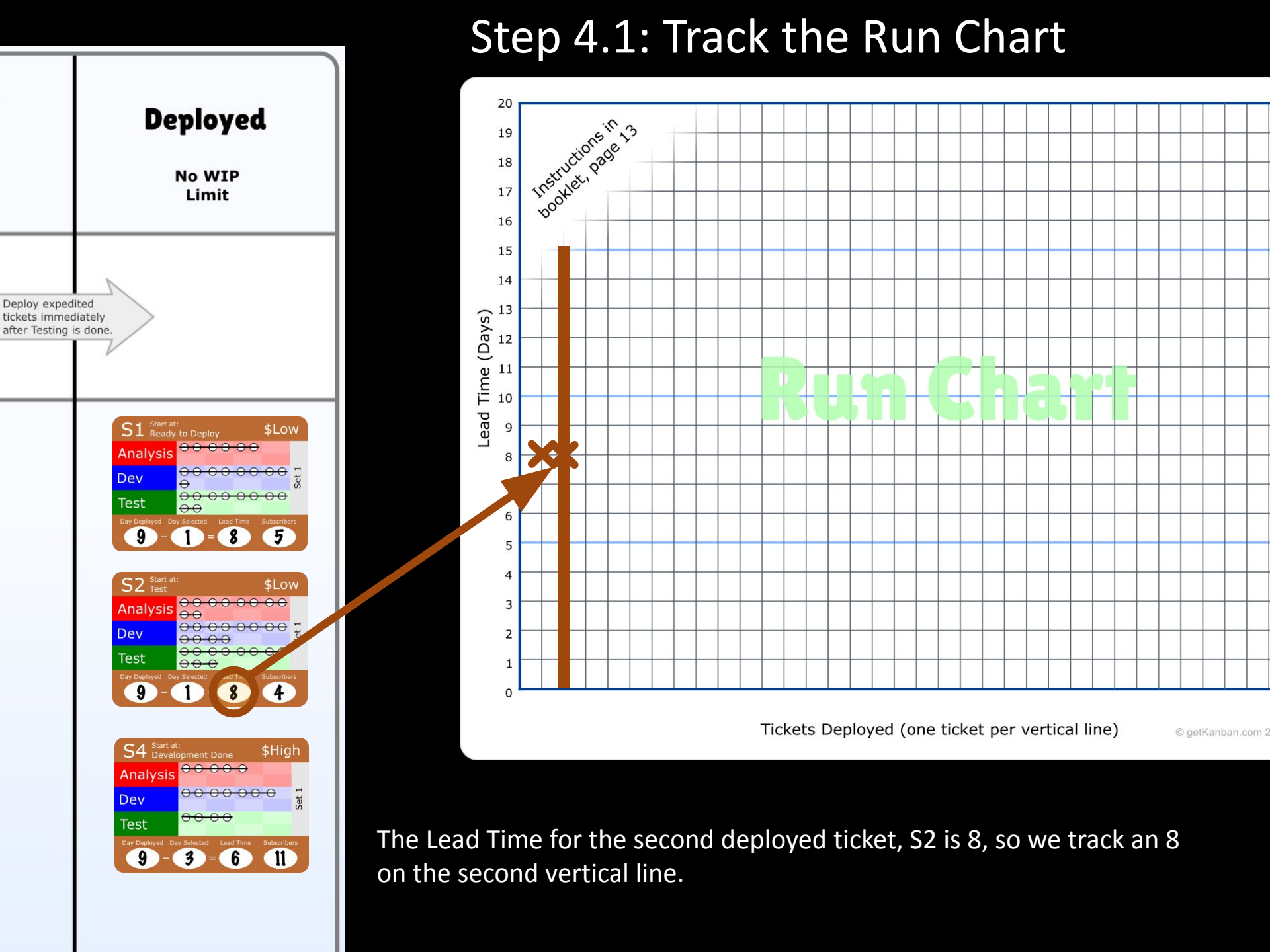
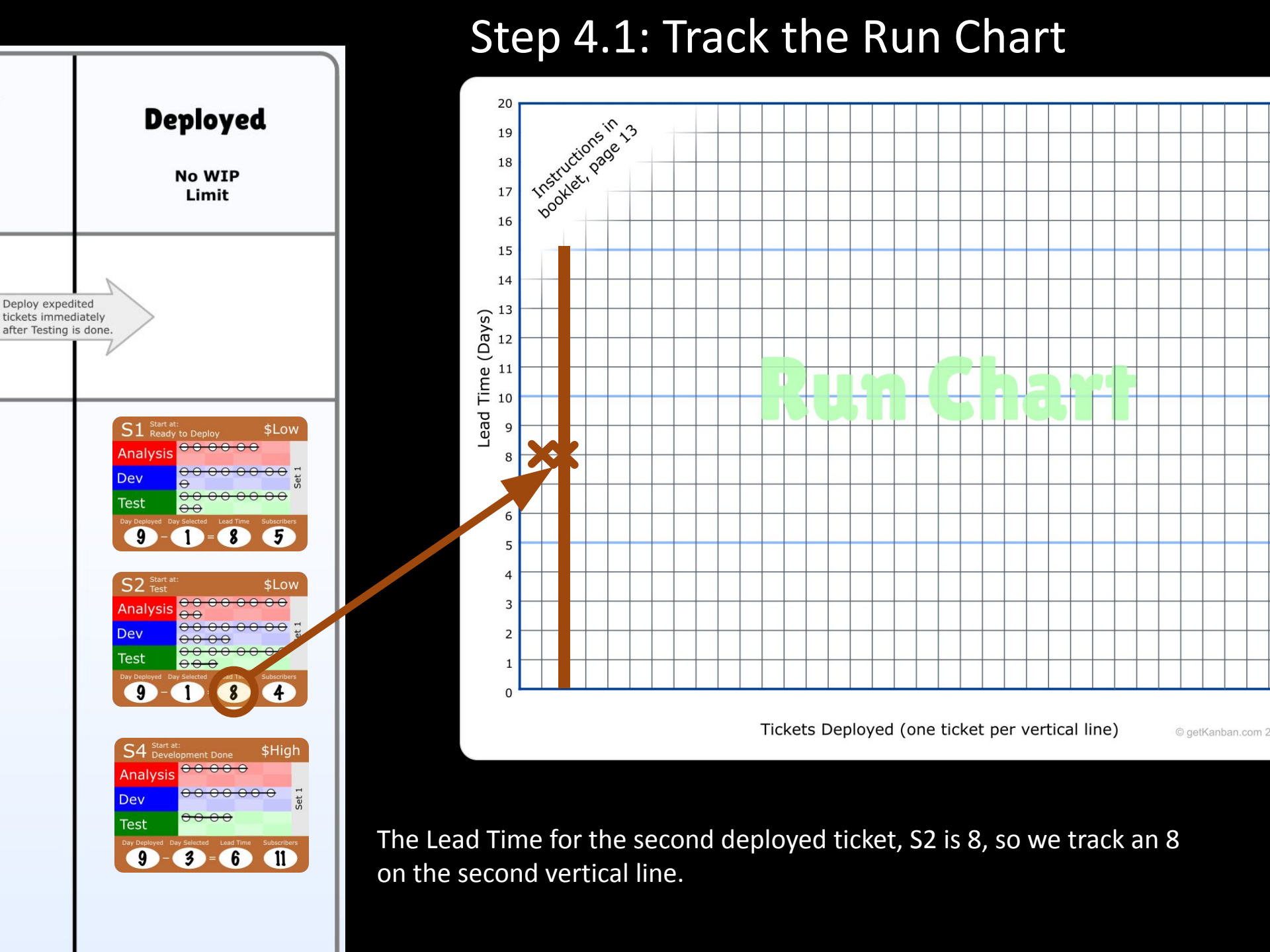
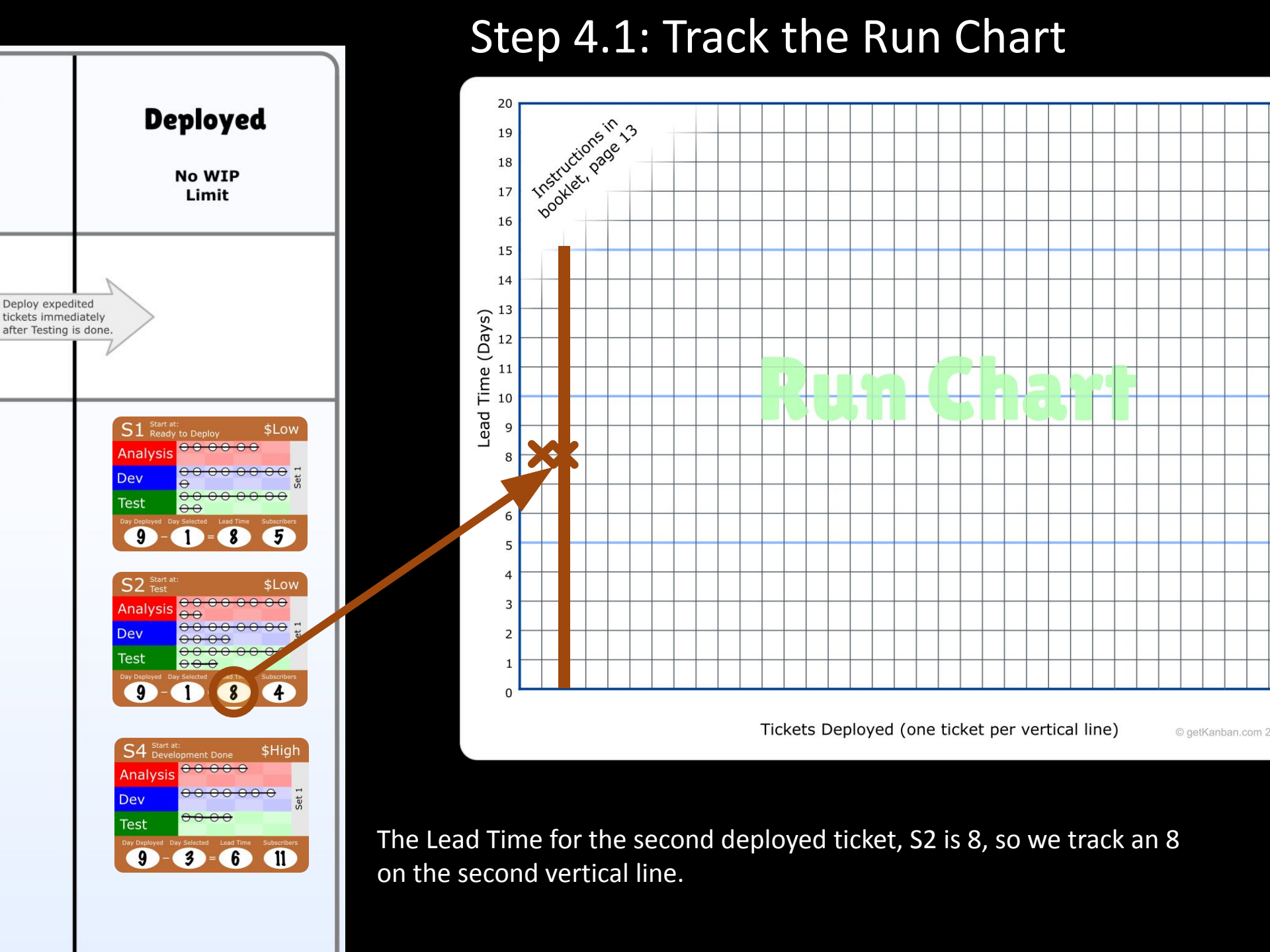
The Lead Time for the first deployed ticket, S1 is 8, so we track an 8 on the first vertical line with a brown marker pen.

Step 4.1: Track the Run Chart

Step 4.1: Track the Run Chart

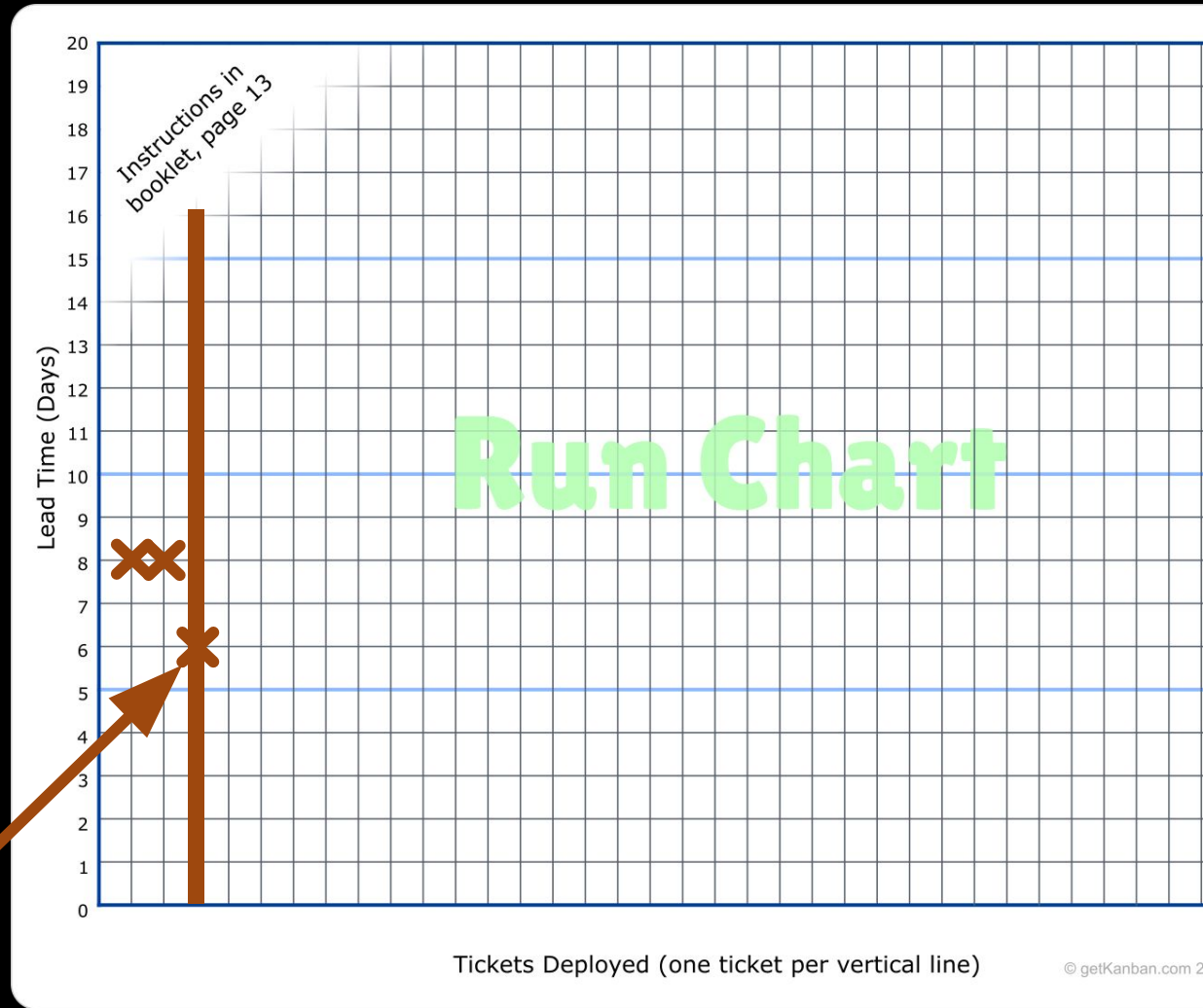
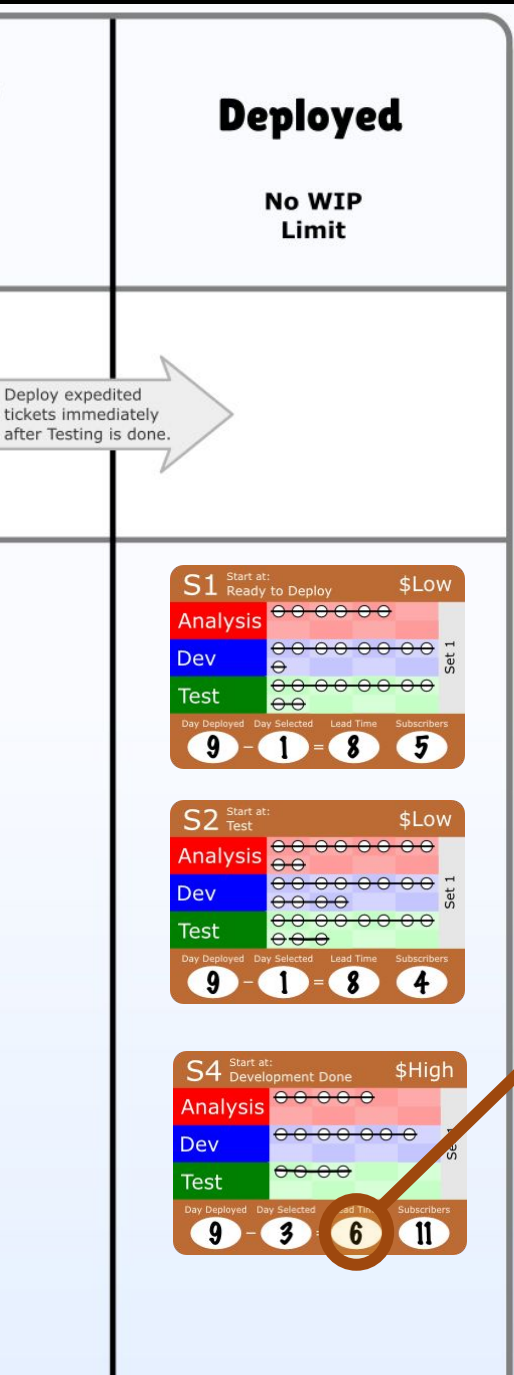
Step 4.1: Track the Run Chart

Step 4.1: Track the Run Chart



Step 4.1: Track the Run Chart

Step 4.1: Track the Run Chart

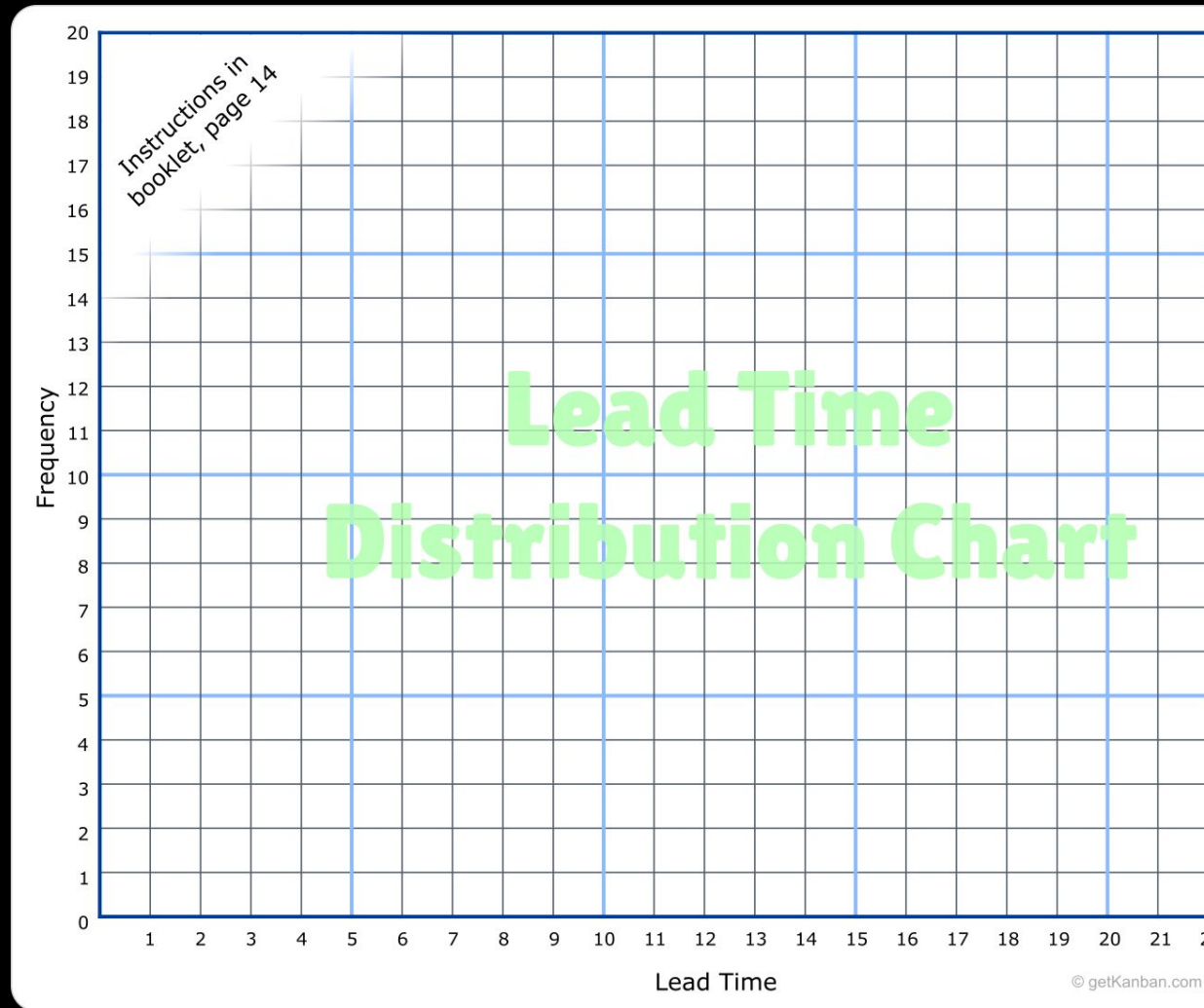
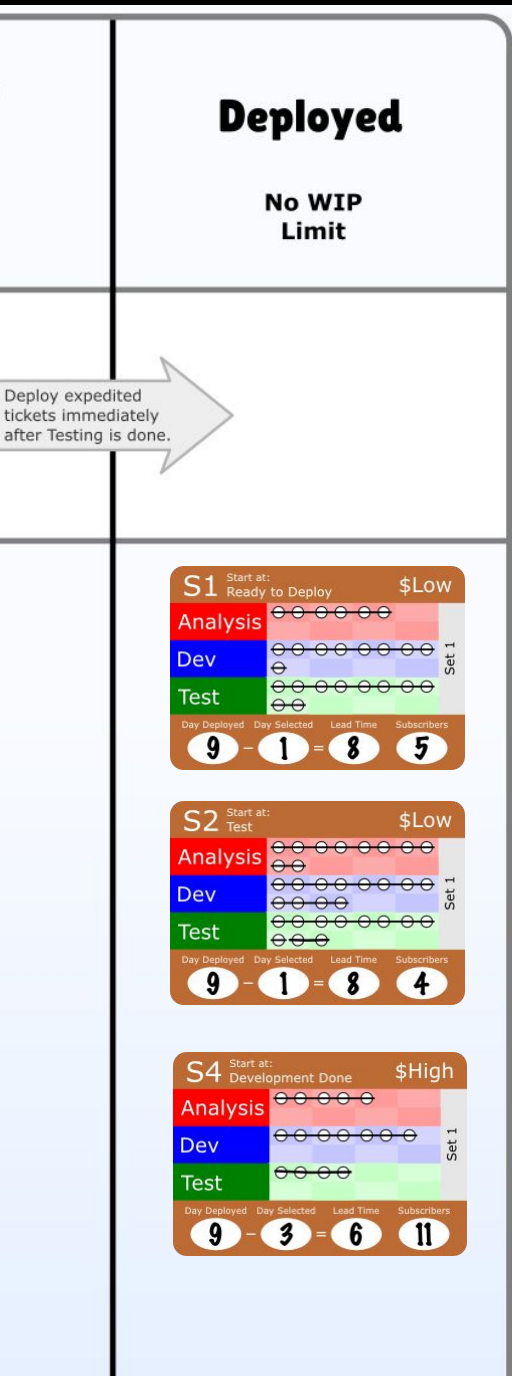


The Lead Time for the third deployed ticket, S4 is 6, so we track a 6 on the third vertical line.

We only track the Run Chart when
tickets have been deployed
(eg: at the end of a billing cycle)

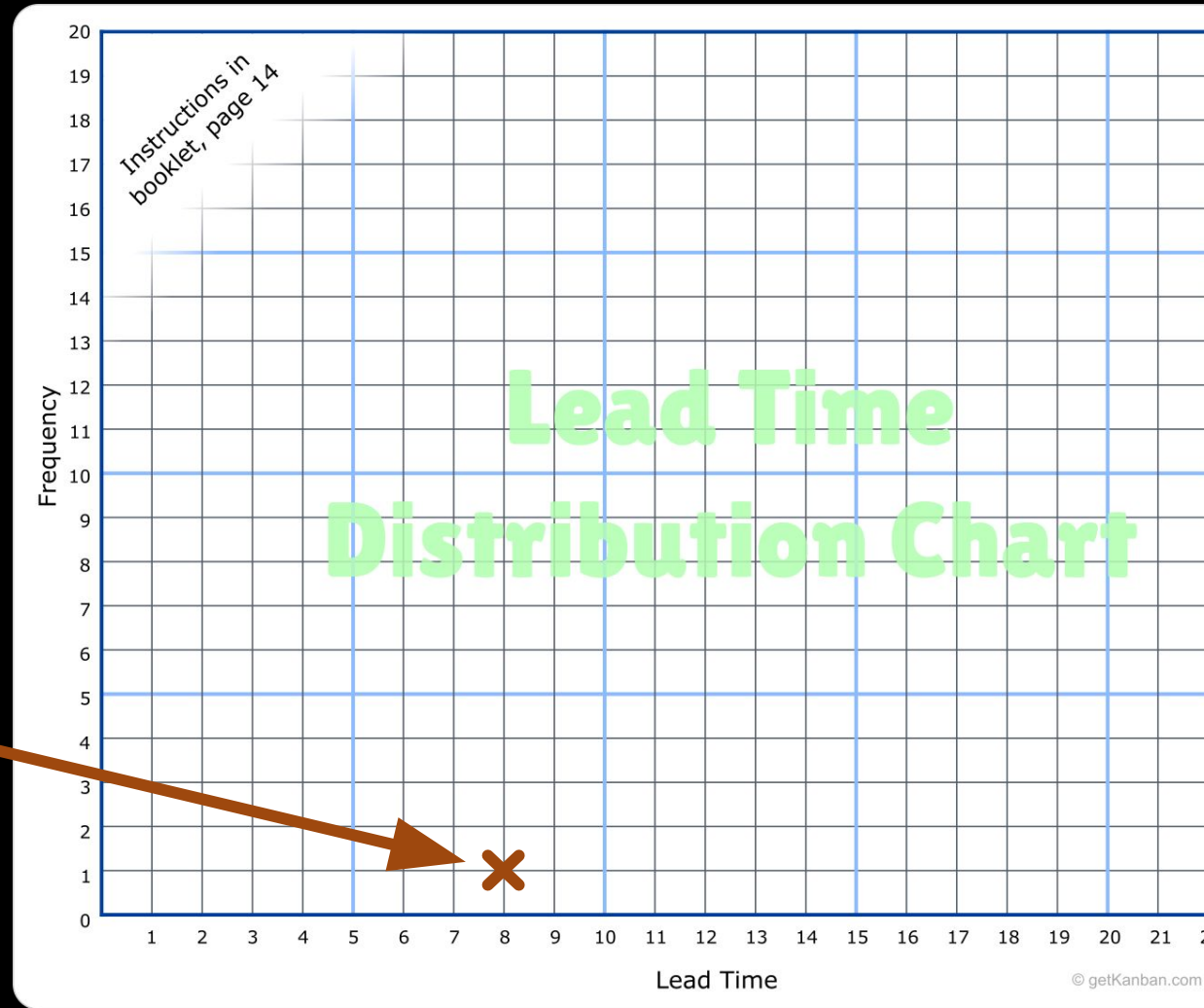
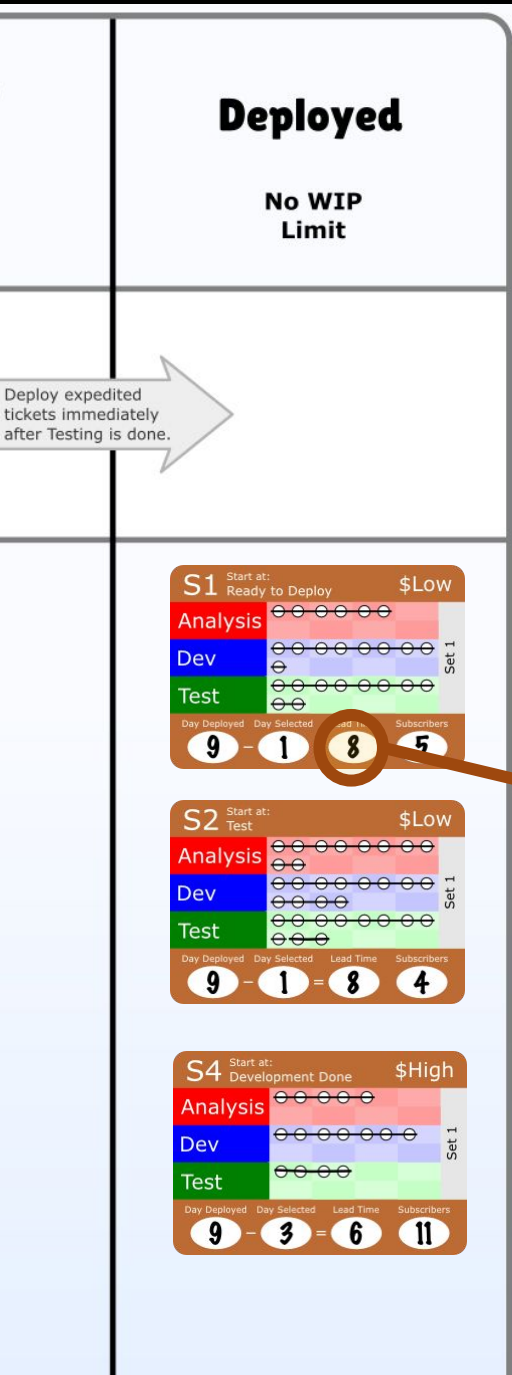
Now we will track the
Lead Time Distribution Chart

Step 4.1: Track the Lead Time Distribution Chart



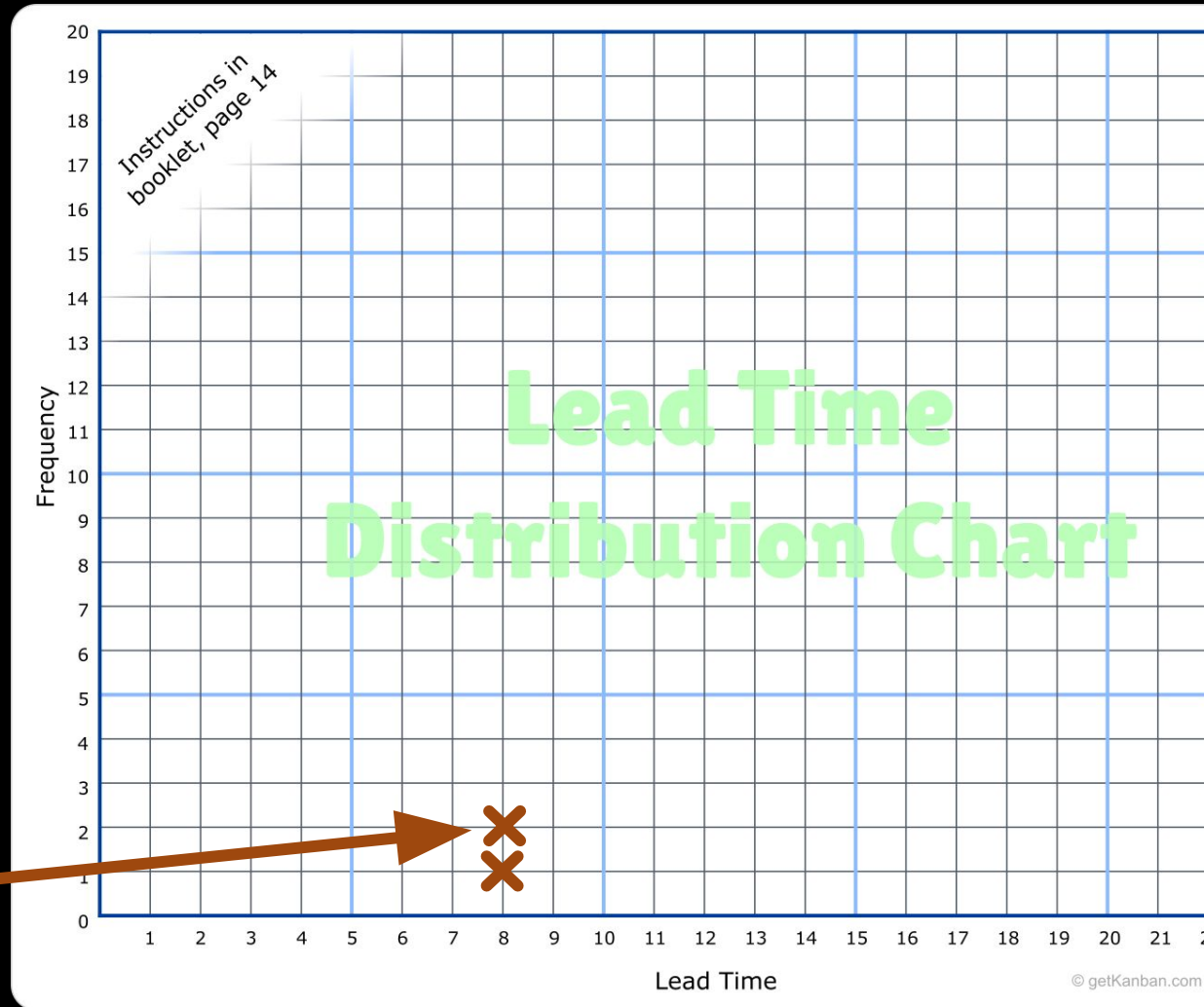
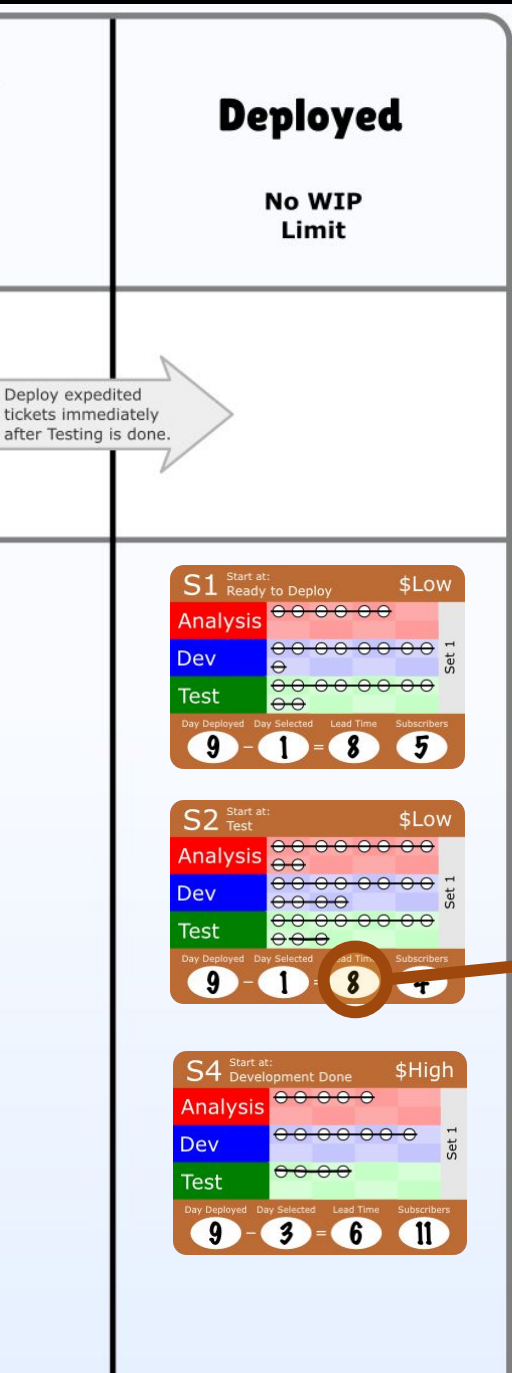
On this chart the vertical lines are different, they represent Lead Times, **not tickets**. For each deployed ticket, add a check mark to the Lead Time tally on the chart. Use the same color marker as the ticket.

Step 4.1: Track the Lead Time Distribution Chart



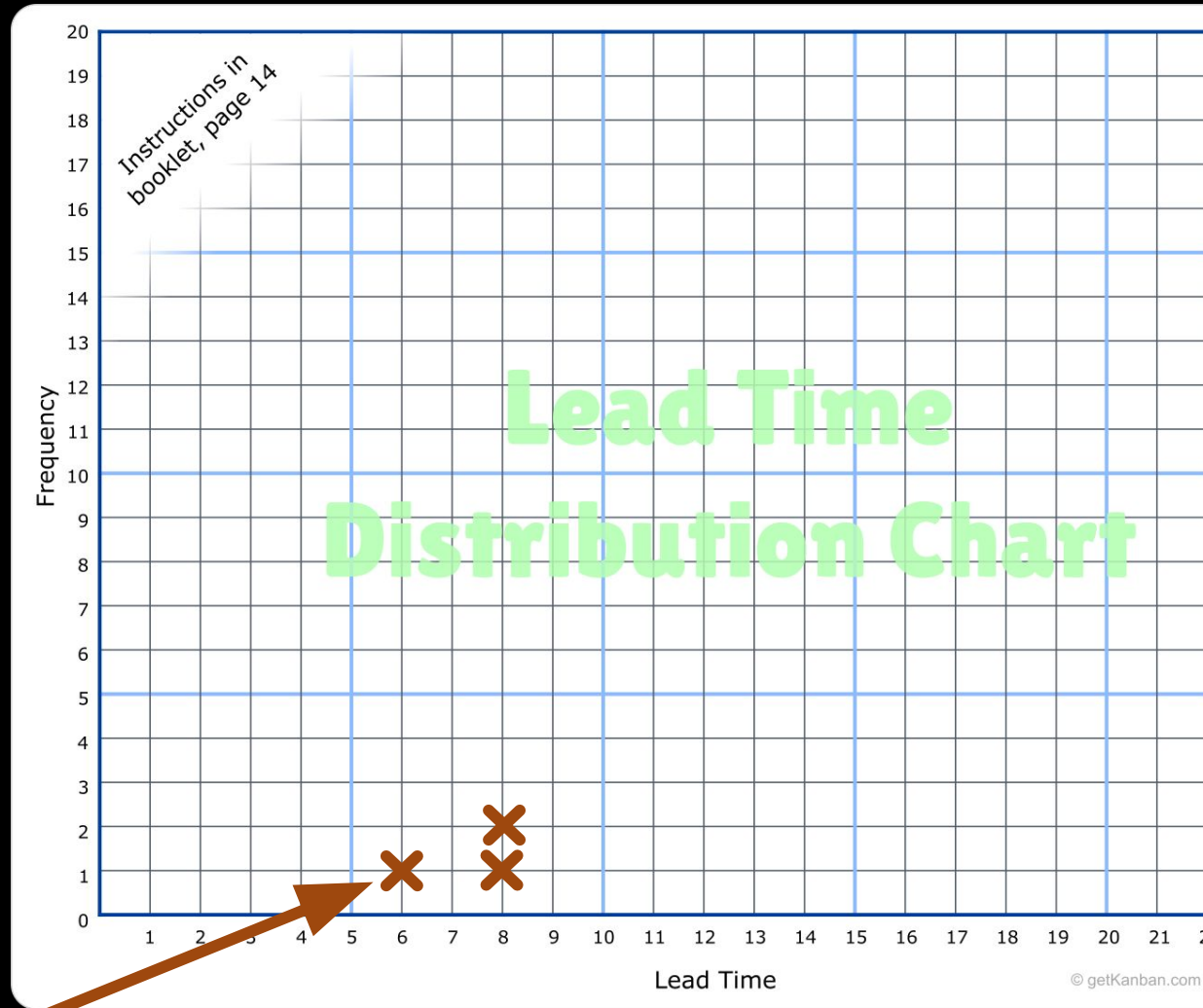
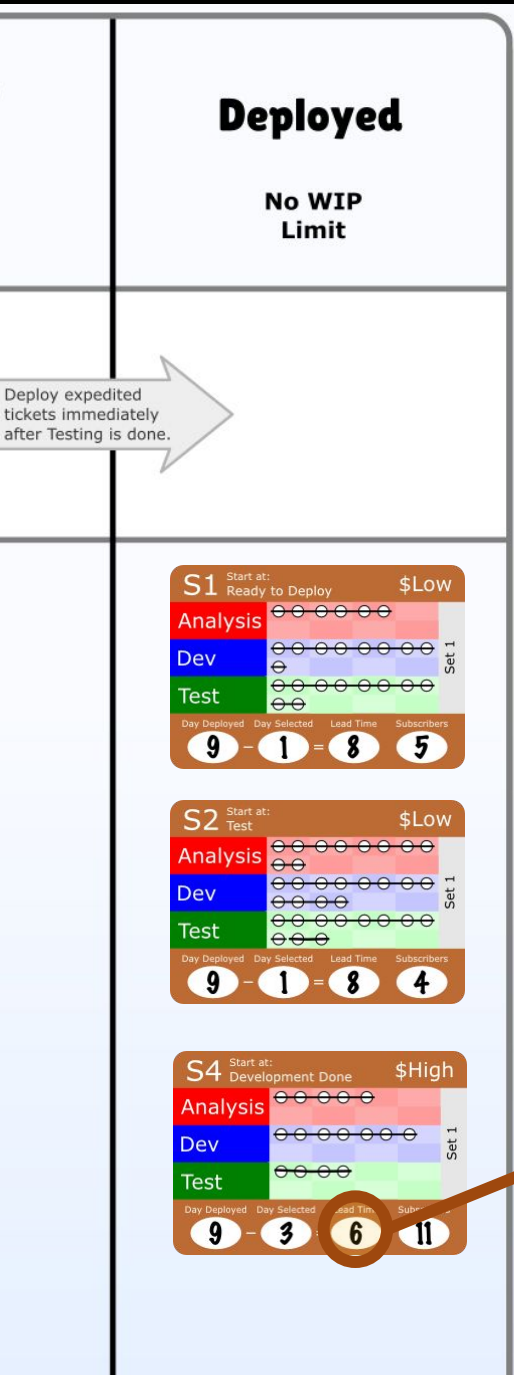
The Lead Time for the first deployed ticket, S1 is 8, so put the first check mark at 8 on the chart. Use a brown marker pen.

Step 4.1: Track the Lead Time Distribution Chart



The Lead Time for the second deployed ticket, S2 is 8, so put the second check mark at 8 on the chart, on top of the first check mark.

Step 4.1: Track the Lead Time Distribution Chart



The Lead Time for the third deployed ticket, S4 is 6, so put the third check mark at 6 on the chart.

We only track the Lead Time Distribution Chart when tickets have been deployed (eg: at the end of a billing cycle)

Now we will move the deployed tickets to the collection point for the current billing cycle at the right-hand side of the board

Deployed

No WIP
Limit

Deploy expedited
tickets immediately
after Testing is done.

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

① ② ③

Collect here tickets
to be included in the

Day 9

Billing Cycle

Collect here tickets
to be included in the

Day 12

Billing Cycle

Collect here tickets
to be included in the

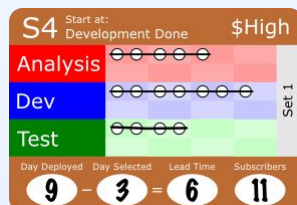
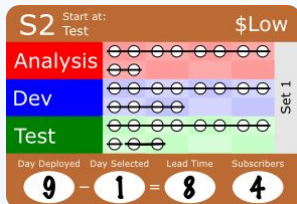
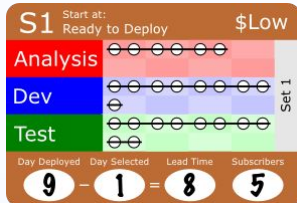
Day 15

Billing Cycle

Collect here tickets
to be included in the

Day 18

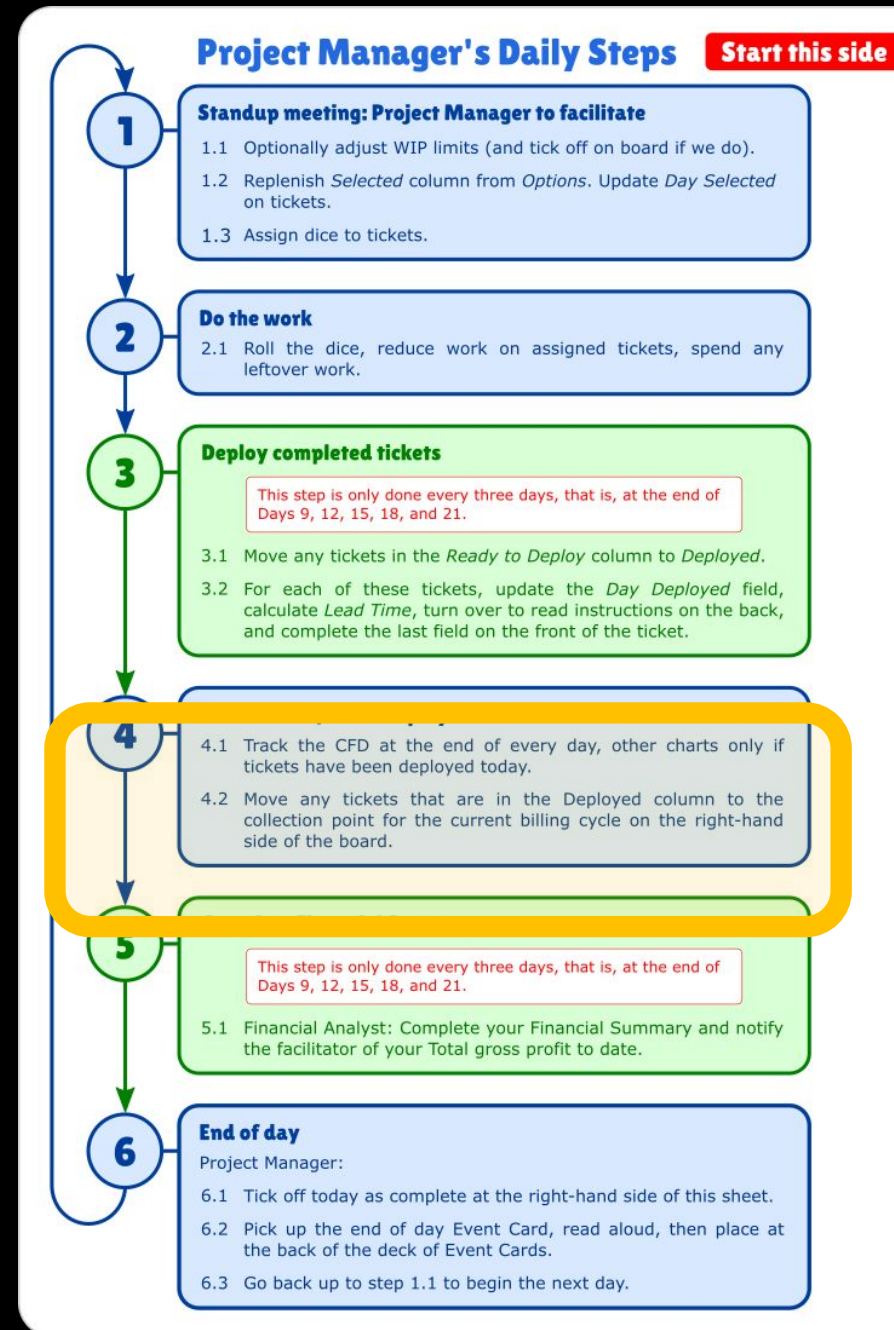
Billing Cycle



Step 4.2: Move deployed tickets

The current billing cycle ends today, Day 9, so move the deployed tickets to the collection point for Day 9 on the board.

Step 5. Complete Financial Summary



Step 5: Complete Financial Summary

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

① ② ③



Collect here tickets to be included in the

Day 12

Billing Cycle

Collect here tickets to be included in the

Day 15

Billing Cycle

Collect here tickets to be included in the

Day 18

Billing Cycle

Add up the number of subscribers gained from tickets deployed in the current billing cycle

5

+

4

+

11

20

Write this number in cell 9A

Work down the column following the instructions above each cell

Financial Summary: Three-

Billing cycle ended:

Day 9

Start here at the end of Day 9

New subscribers this billing cycle:
(Add up subscribers for tickets deployed in the billing cycle, and write the result in the cell)

9A 20

Then work down the column, following the instructions above each cell

Total subscribers to date:

9B 20

Billing cycle revenue:

9C 200

Fines or payments:

Billing cycle gross profit:

9E 200

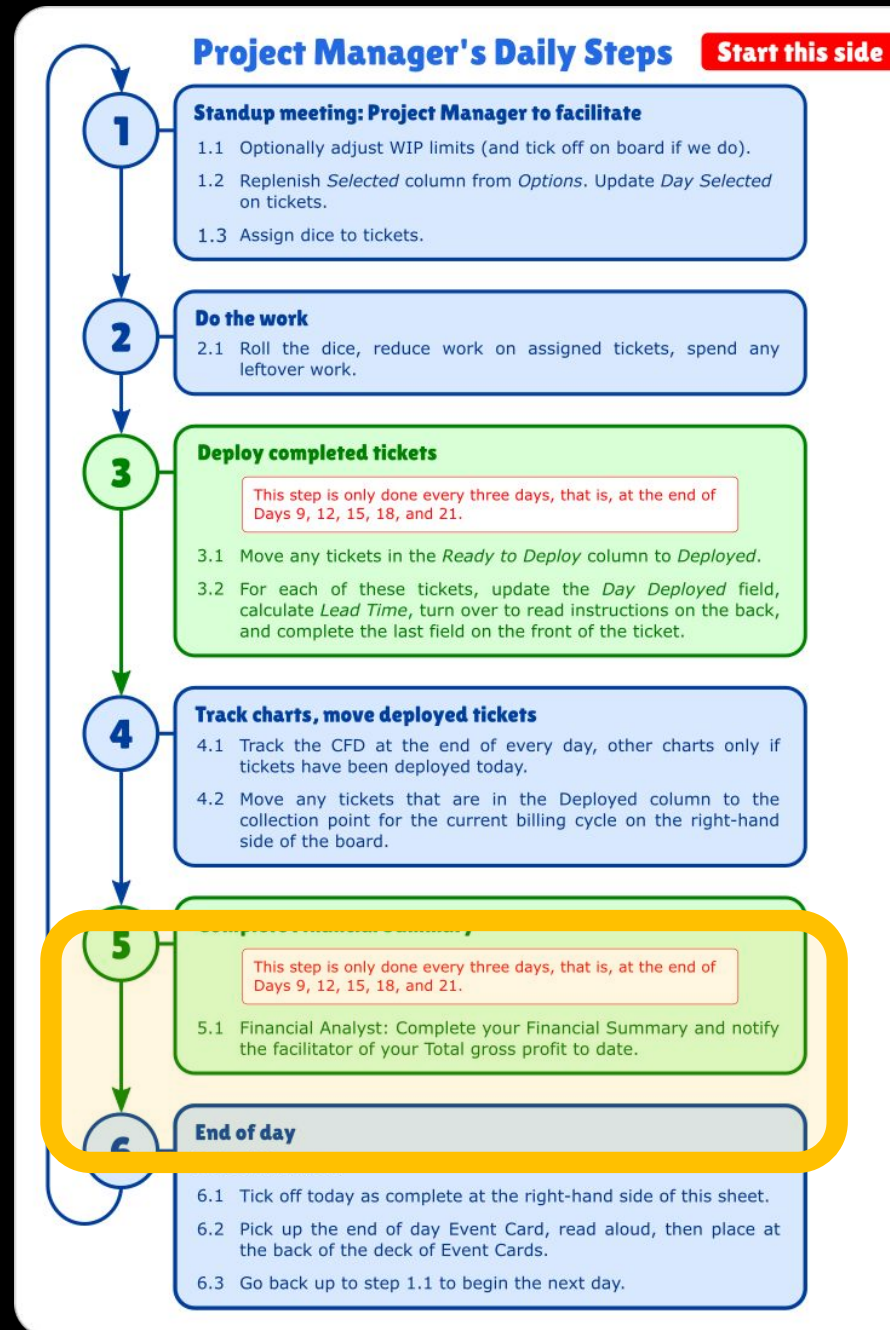
Total gross profit to date:

9F 200

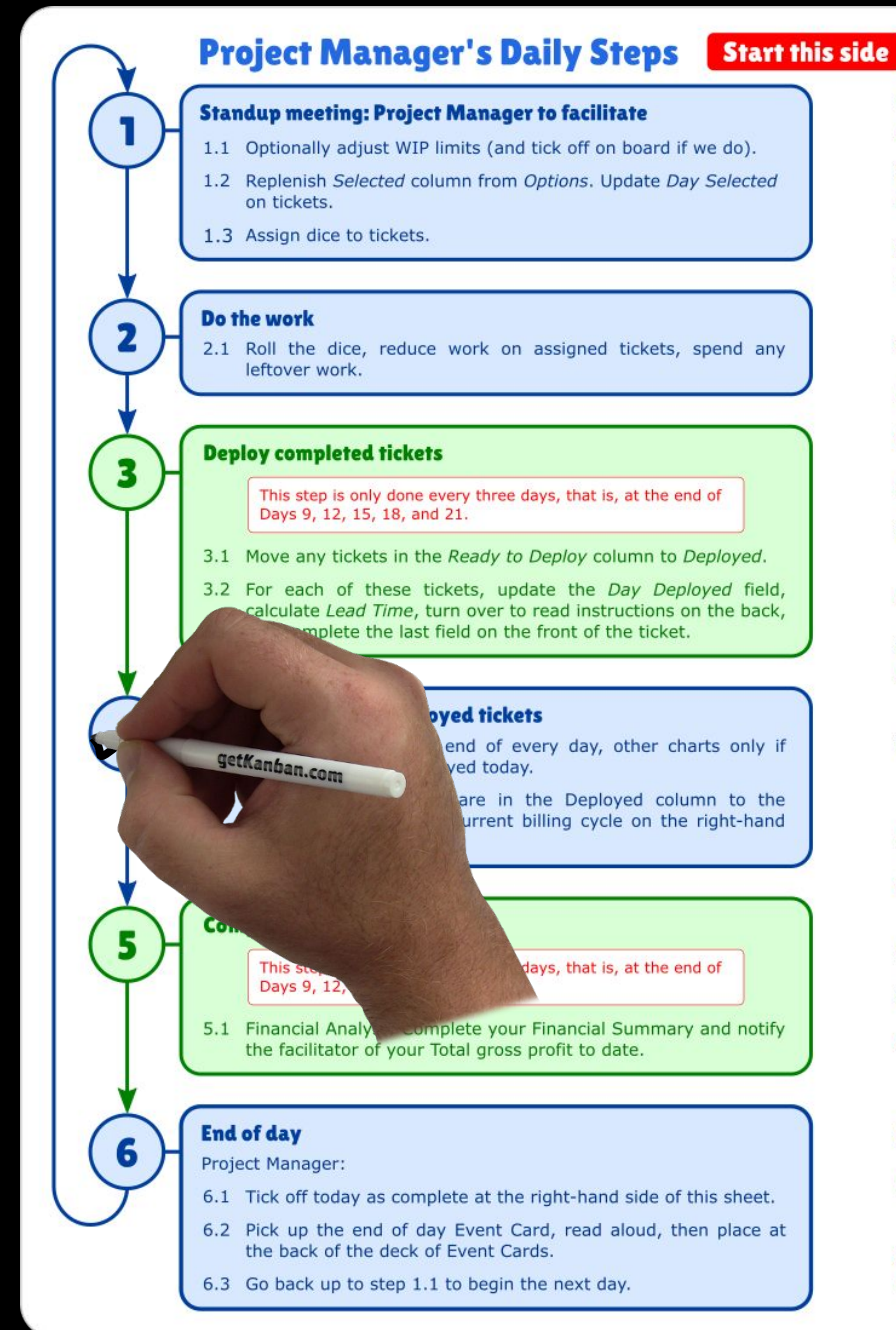
Notify facilitator of Total gross profit to date at

Company name: _____

Step 6. End of day



Step 6.1: Tick off day as complete



Step 6.2: Read Event Card

Event Card

Pick up at the end of Day:

9

Options

F1 Pull Day 12 for audit. If not done on time: \$1,000 fine.

S11 \$Med

I1 Automate deployments.

Selected 9	Analysis WIP Limit	Development WIP Limit (Applies across both In Progress and Done)	Test WIP Limit	Ready to Deploy No WIP Limit	Deployed No WIP Limit
<div style="background-color: #e0f0ff; padding: 20px; border: 2px solid #ffcc00; border-radius: 50%; display: flex; align-items: center; justify-content: center;"> <h2 style="color: #007bff;">Good luck!</h2> </div> <div style="background-color: #fff2cc; padding: 10px; border: 1px solid #ffcc00; margin-top: 10px;"> <p>Advanced</p> <p>Discuss the following:</p> <ul style="list-style-type: none"> What is the opportunity cost of working on Fixed Delivery Date ticket F1 too early? What is the cost if we deliver it too late? What about Fixed Delivery Date ticket F2? </div>					

Count the number of tickets between the purple line and the red line. Add this number to the red data point on the CFD for today, and track the result as a purple data point on the CFD for today. Join the purple data points for yesterday and today with a purple line.

Count the number of tickets between the red line and the blue line. Add this number to the blue data point on the CFD for today, and track the result as a red data point on the CFD for today. Join the red data points for yesterday and today with a red line.

Count the number of tickets between the blue line and the green line. Add this number to the green data point on the CFD for today, and track the result as a blue data point on the CFD for today. Join the blue data points for yesterday and today with a blue line.

Count the number of tickets in this column (between the green line and the black line). Add this number to the black data point on the CFD for today, and track the result as a black data point on the CFD for today. Join the black data points for yesterday and today with a black line.

WIP limits may be changed a maximum of three times during the game. Tick off here each time WIP limits are changed.

1

2

3

S4 Part of Development Done \$High

Analysis

Dev

Test

3

0

0

Collect here tickets to be included in the

Day 12

Billing Cycle

Collect here tickets to be included in the

Day 15

Billing Cycle

Collect here tickets to be included in the

Day 18

Billing Cycle

Collect here tickets to be included in the

Day 21

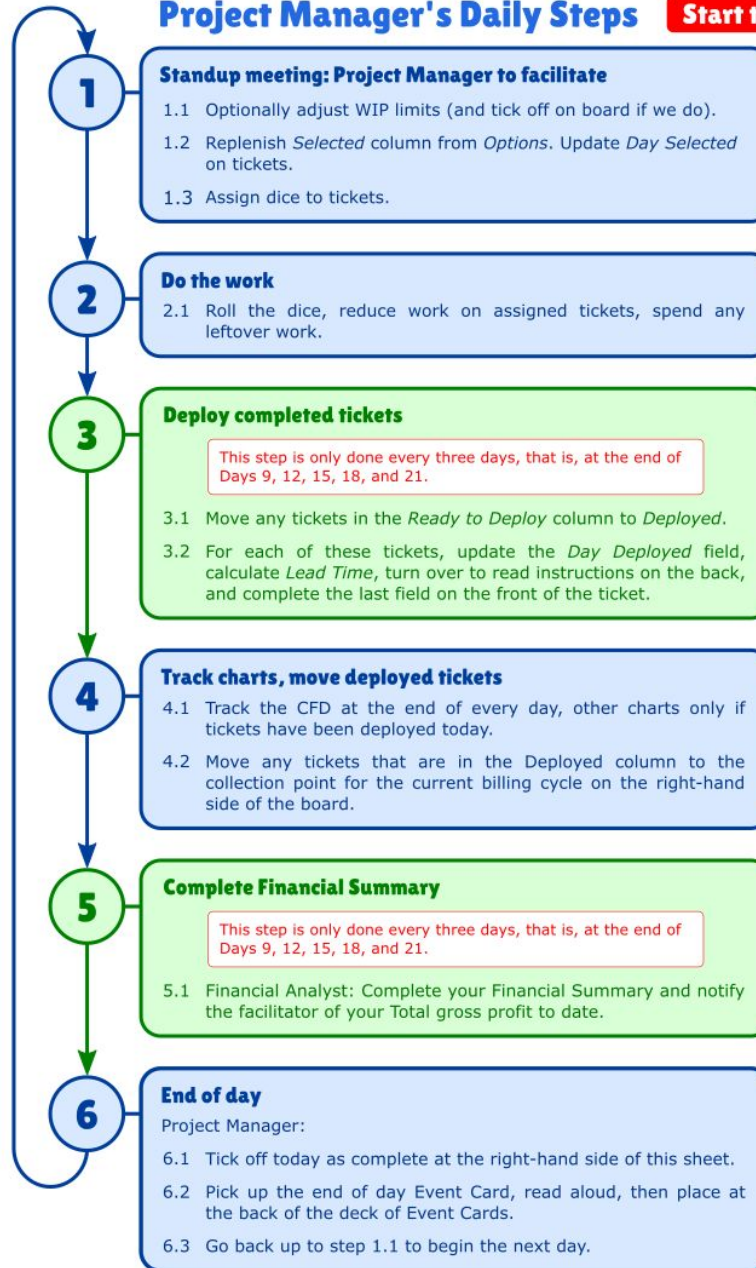
Billing Cycle

“Advanced” discussion points are optional. Your facilitator will tell you whether to discuss these or not when they come up on Event Cards.

Consult the FAQ on the same sheet as the Project Manager's Daily Steps guide if you have any questions while playing the game.

Project Manager's Daily Steps

Start this side



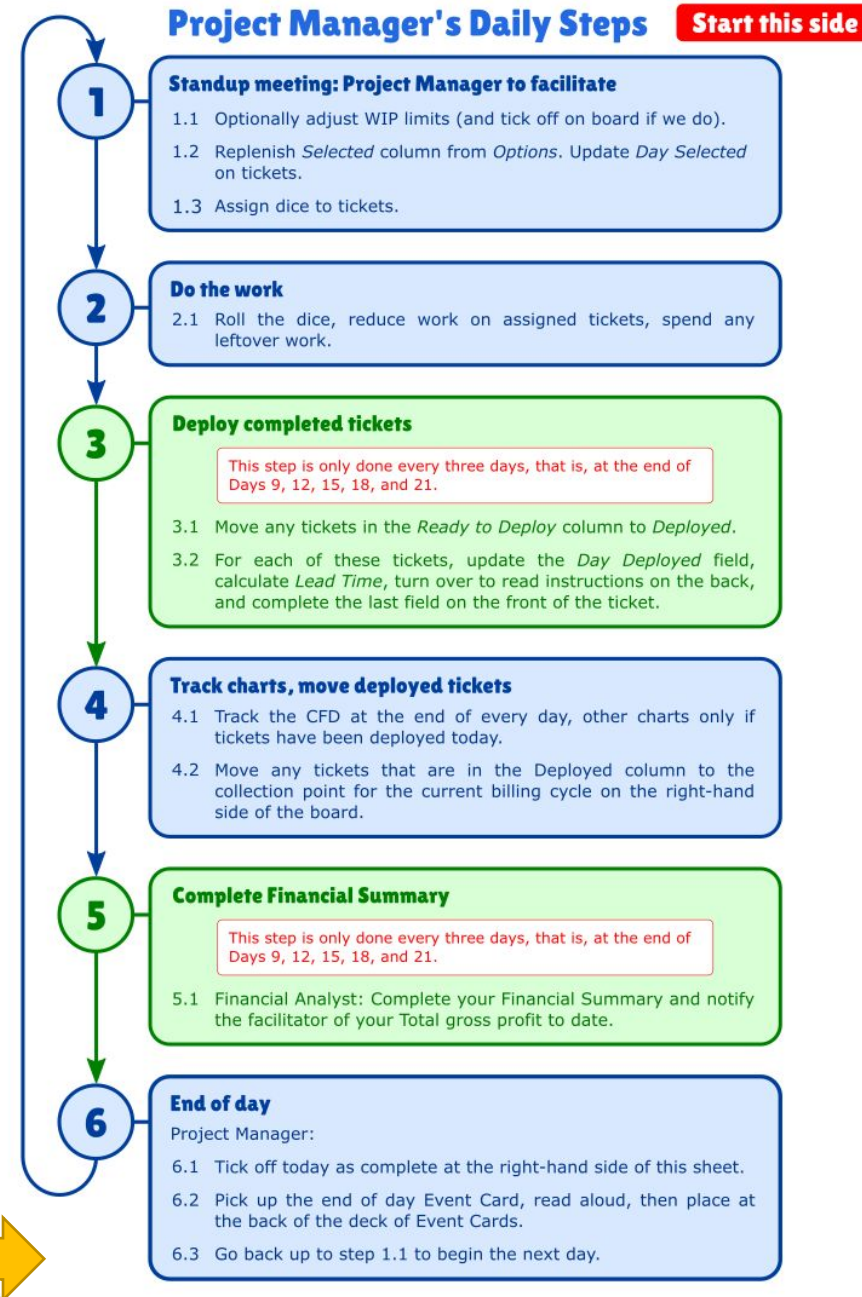
Frequently Asked Questions

- Q: Can we select tickets from *Options* in any order?
A: Yes.
- Q: Can we pull tickets across the board in any order?
A: Yes.
- Q: Can we assign multiple dice to one ticket?
A: Yes, but if more than two dice are assigned to a ticket, any leftover work is lost.
- Q: Can we pull tickets downstream without dice assignment in order to make room upstream for new tickets?
A: Yes.
- Q: Do we have to replenish the *Selected* queue to its WIP limit at the Standup meeting?
A: Yes.
- Q: If we have capacity to pull tickets directly into *Analysis In Progress* when we replenish the *Selected* queue, may we do so?
A: Yes, if we wish to, but we are not required to.
- Q: Can we spend leftover work on other tickets?
A: Yes, as long as we spend the points in the same specialization that the die was originally rolled for.
- Q: Can we assign dice to work in a specialization on a ticket before work of a prior specialization is complete? That is, can we anticipate it being available to work on later in the day?
A: We may do this for tickets in the *Expedite Lane* only.
- Q: What happens if we have spare dice, or leftover work to spend, but we can't pull any more tickets because the WIP limits are met?
A: The work is lost.
- Q: Can we assign a die to a ticket, then roll it, then assign another die to a ticket then roll it, etc?
A: No. All dice must be assigned to tickets before any dice are rolled. Once assigned, we may roll dice and strike off work from tickets in any way we please.
- Q: Can we remove from the board (or otherwise ignore) tickets that have already been selected?
A: No. Once selected, tickets should be worked to completion.
- Q: Can we adjust WIP limits?
A: Yes, at the Standup meeting, a maximum of three times during the game.

Step 6.1: Next day

It is now the beginning of Day 10, and it's your turn to make all of the decisions.

Project Manager: go back up to step 1.1 and begin the next day.



Optional: Bonus

The first team to complete Day 15 will receive an in-game bonus cash prize of \$1,000.



End of Game



Continue to debrief

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The Winners

Congratulate the winning team!
(and/or audit their financials if necessary!)

Review the scoreboard:

- see if there is an obvious point at which the winning team pulled away.
- does the scoreboard tell us anything else?

Review the Financial Summary sheets. How many subscribers did each team gain? When did they gain them?

Winning team:

- what strategies, tactics, or events do you think contributed to your victory?
- what might you do differently if you were to play again?

Other teams:

- what were contributing factors to your loss?
- what might you do differently if you were to play again?

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WIP Limits

Did you ever roll more points on the dice than you were able to use on the tickets? How did it feel, and how did you react to it?

What WIP limit changes did you make and why? How did you determine what limits to set?

Did you feel a tension between reducing WIP limits and maximizing utilization? If so:

- did you discuss it?
- would you change your choices of WIP limits if you were to play again? If so, how?

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Lead Time

Is the relationship between Lead Time and the number of subscribers gained realistic (as described by the table on the back of the Standard tickets)?

What are some costs resulting from longer Lead Time that might have reduced the number of subscribers gained?

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The Team

What sorts of things were you discussing in your stand-up meetings?

How did you make decisions, were you making quantitative, objective assessments? If so, what data were you using?

Who was participating in the analysis and decision making, one person, or many people? How well did this work?

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The Work

Did you analyze the Options to select which tickets to pull, and did you analyze the tickets on the board to prioritize them within columns? If so:

- what factors did you take into account in selecting and prioritizing tickets?
- Did your selection criteria change as the game progressed?

Were some days more important than others for completing work?

Were some billing cycles more important than others?

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The Blocker

How long did it take teams to resolve the blocker? Was there high variability in resolution times between the teams?

What might have been causing the variability in Pete's availability? (The pink die was Pete)

Could this variability be a concern for us? Why, or why not?

What impact might this have had if we were frequently dependent on Pete?

Does this happen in real life?

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Queue Replenishment

Is daily queue replenishment always the optimal choice?

Why or why not?

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Carlos' Testing Policies

What did you observe when Carlos arrived? When he left?

What was the cause of this effect?

Could this be a real-life scenario?

What was Carlos' reaction to the problem? Do you think his solution would have worked? Was it sustainable?

What impact might Carlos' solution have had on the Testers?

Why did the problem become manifest so quickly? Are the effects of policy decisions always so obvious? Why, or why not?

Why would Carlos have set such policies? What might his motivations be?

How might W. Edwards Deming have viewed the situation, and what sort of advice might he have given?

Did Alison make good decisions? Why, or why not?

Did you swarm to work down the Testing backlog? Did you see a jamming affect upstream? If so, why did this occur?

What impact did the additional Tester have on throughput?

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Fixed Delivery Date Tickets

When did start work on the Fixed Delivery Date tickets, and when did you complete them? Were these sensible decisions?

Did anyone finish F1 early? If so, did this choice have an opportunity cost, and can you quantify it approximately?

Did anyone deploy F2 early?

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Expedite Tickets

Did you decide to do E1? Did you swarm on it? Why did you make those decisions?

What impact did working E1 have on the other work in progress?

Did you decide to do E2? Why or why not? Was your decision reflective of the power distance in your organization? Your country?

What policy was in place for accepting Expedite tickets? Was it sufficient? If not, why not? What might be an example of a better policy?

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Intangible Tickets

Did you decide to work on the intangible tickets?

How did you make those decisions?

How did you prioritize the Intangible tickets against the other work items, and why?

If you completed the Intangible tickets, what affect did they have?

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The Defect

What impact did the defect have?

What priority did you give the defect fix, and why? Was that a good decision? If not, why not?

What are some advantages and disadvantages of the approach used for addressing defects? What are some alternative approaches?

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Service Level Agreements

What SLAs would you choose for Standard class of service tickets?
What would a reasonable target cycle time be for an SLA with 95% confidence?

What SLAs would you choose for Fixed Delivery Date class of service tickets?

What information informs your choices of SLA?

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What stories do your charts tell, can you see the impact of the events that transpired?

What does the "staircase" in the black line on the CFD represent?

Did throughput change at some point, and if so, why do you think it did?

Can you see a relationship between WIP and Lead Time?

Can you see the impact of Carlos' policies, and how long it took to recover?

Compare the charts of the most profitable and least profitable teams. Could you deduce from the charts which team won, and if so, how?

Can you see any relationships or correspondence between the different charts?

Which teams saw the most variation, which saw the least, and what were the contributing factors?

Does variability matter? If so, why, and to whom?

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If playing the bonus option, did your team choose to play quickly for the bonus or not? Did your choice pay off?