

# Математик

# ВЗ

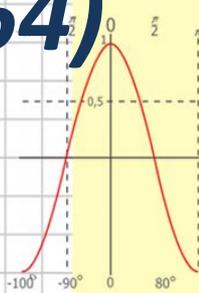
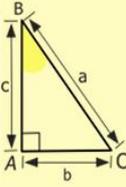
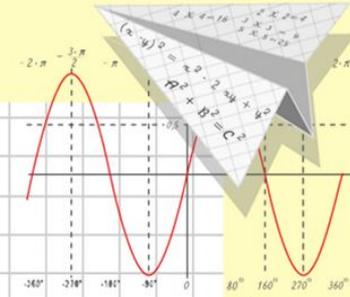
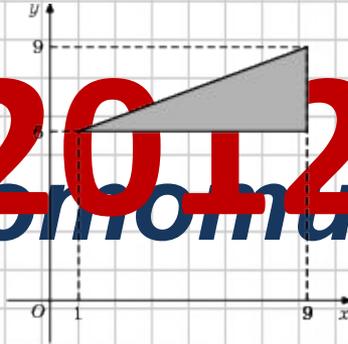
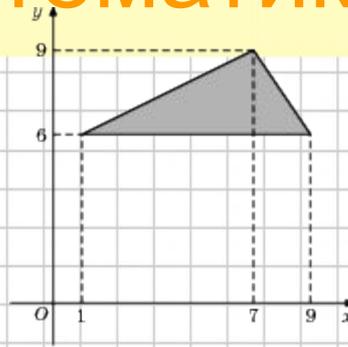
# а

# 2012 год

## Протокол задания ВЗ (№27564)

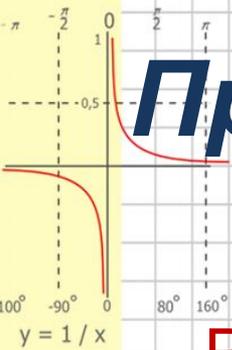
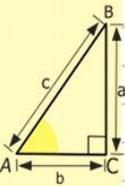
### Расположение фигур в декартовой системе координат

### Работа учителя математики Зениной Алевтины Дмитриевны



$$y = \cos x$$

- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64



$$\begin{array}{r} 1\ 2\ 5\ 0\ 0 \\ \times 4\ 2 \\ \hline 2\ 1\ 0 \\ + 8\ 4 \\ \hline 1\ 0\ 5\ 0\ 0 \end{array}$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

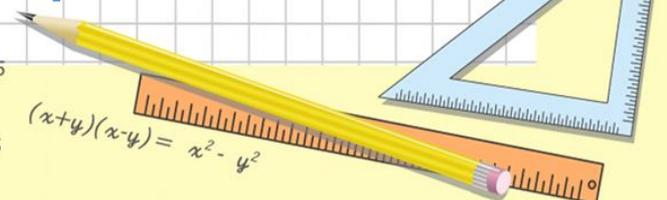
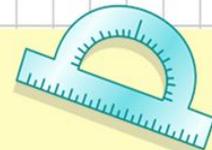
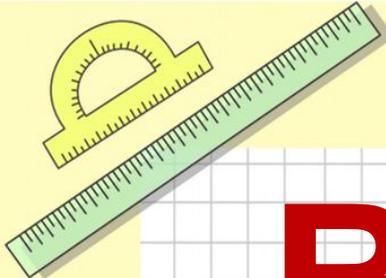
$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

$$(x+y)(x-y) = x^2 - y^2$$



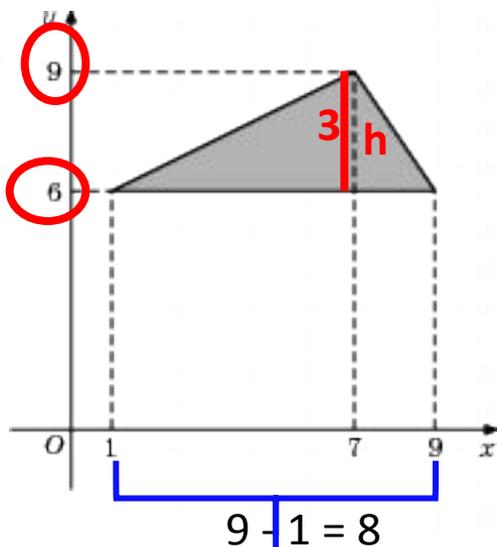
# Прототип задания В3 (№ 27564)

Найдите площадь треугольника, вершины которого имеют координаты (1;6), (9;6), (7;9)

$$S_1 = \frac{1}{2}(a \cdot h)$$

$$S_1 = \frac{1}{2}(8 \cdot 3) = 12$$

2 способ  
решения



**Ответ:  
12**

$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

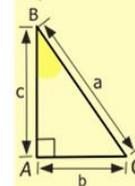
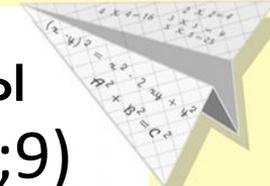
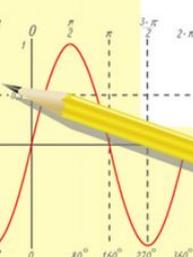
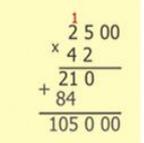
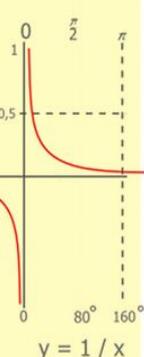
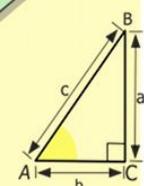
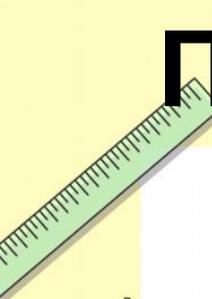
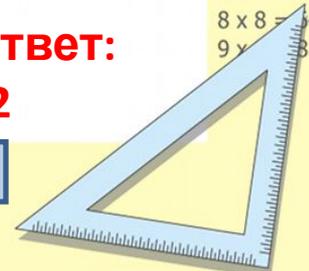
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$

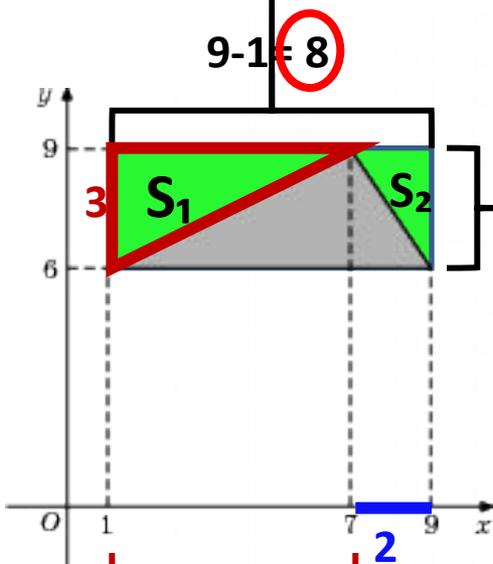


2 x 2 = 4
3 x 3 = 9
4 x 4 = 16
5 x 5 = 25
6 x 6 = 36
7 x 7 = 49
8 x 8 = 64
9 x 9 = 81

# Прототип задания В3 (№ 27564)

Найдите площадь треугольника, вершины которого имеют координаты (1;6), (9;6), (7;9)

Если из площади прямоугольника вычесть площади двух площадей зеленых треугольников, то получим площадь искомого треугольника.



$$9 - 1 = 8$$

Площадь прямоугольника равна:  $3 \cdot 8 = 24$

$$S_1 = \frac{1}{2}(6 \cdot 3) = 9$$

$$9 - 6 = 3$$

$$S_2 = \frac{1}{2}(2 \cdot 3) = 3$$

Площадь искомого треугольника равна:  $24 - 9 - 3 = 12$

**Ответ:**  
**12**

$$\frac{a}{A} = \frac{b}{B} = \frac{c}{C}$$

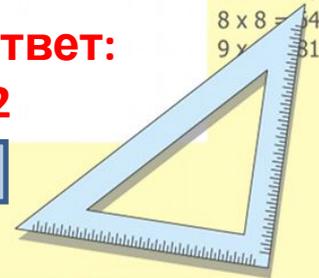
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

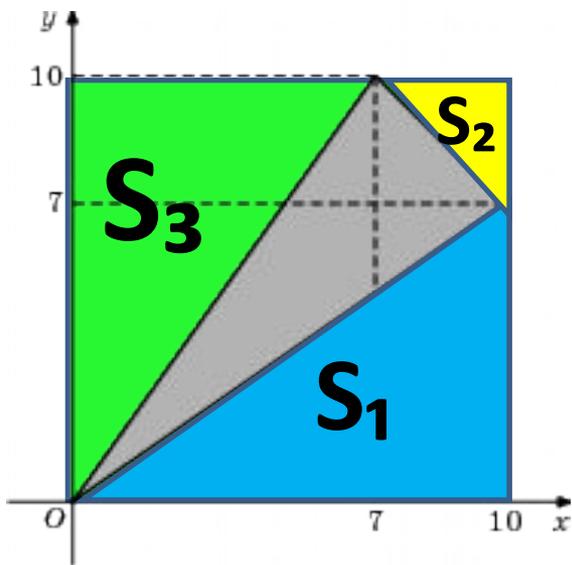
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



# Прототип задания В3 (№ 27566)

Найдите площадь треугольника, вершины которого имеют координаты (0;0), (10;7), (7;10).



$$S_1 = 35$$

$$S_2 = \frac{1}{2}(3 \cdot 3) = 4,5$$

$$S_3 = 35$$

Площадь искомого треугольника равна:

$$S = S_{\text{квадрата}} - S_1 - S_2 - S_3 = 100 - 35 - 4,5 - 35 = 25,5$$

**Ответ:**  
**25,5**

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

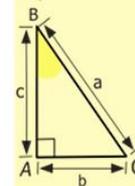
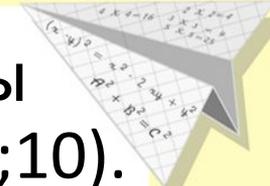
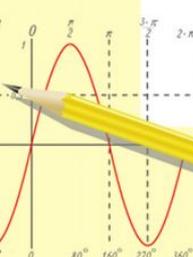
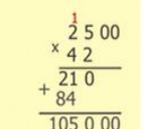
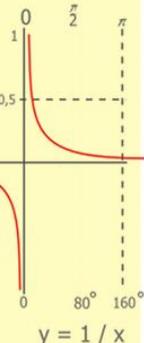
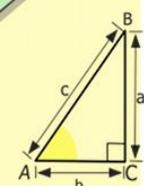
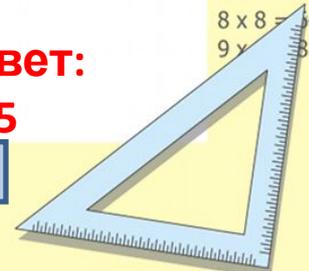
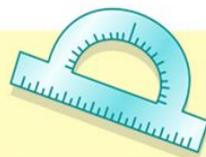
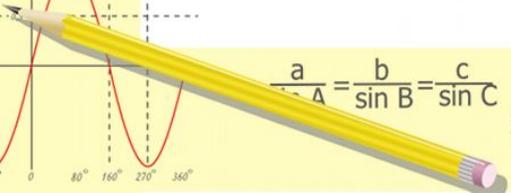
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



2 x 2 =	4
3 x 3 =	9
4 x 4 =	16
5 x 5 =	25
6 x 6 =	36
7 x 7 =	49
8 x 8 =	64
9 x 9 =	81

# Прототип задания В3 (№ 27570)

Найдите площадь четырехугольника, вершины которого имеют координаты (8;0), (9;2), (1;6), (0;4).

Данный четырехугольник является прямоугольником, противоположные стороны равны.

$$S_{\text{прямоугольника}} = a \cdot b$$

Гипотенуза **a** по теореме Пифагора равна:

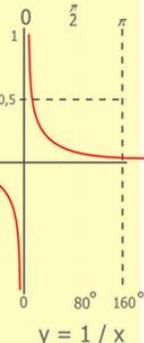
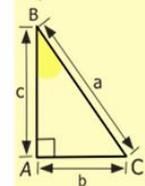
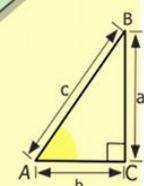
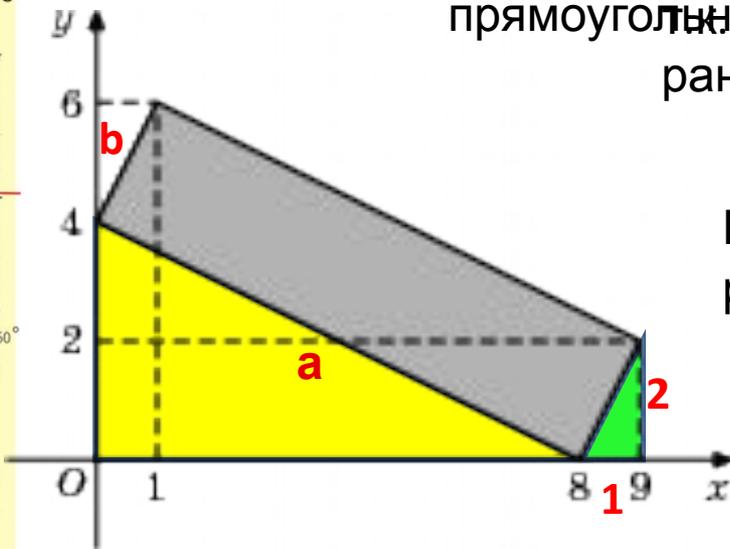
$$a = \sqrt{8^2 + 4^2} = \sqrt{64 + 16} = \sqrt{80}$$

Гипотенуза **b** по теореме Пифагора равна:

$$b = \sqrt{1^2 + 2^2} = \sqrt{5}$$

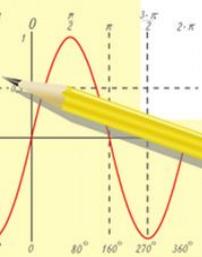
$$S_{\text{прямоугольника}} = \sqrt{80} \cdot \sqrt{5} = \sqrt{400} = 20$$

**Ответ:**  
**20**



$$\begin{array}{r} 1 \\ 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$

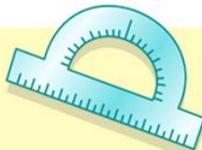
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

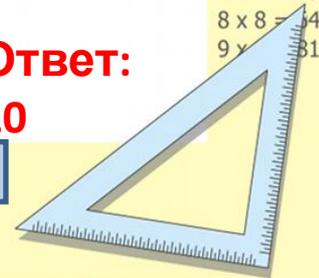
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

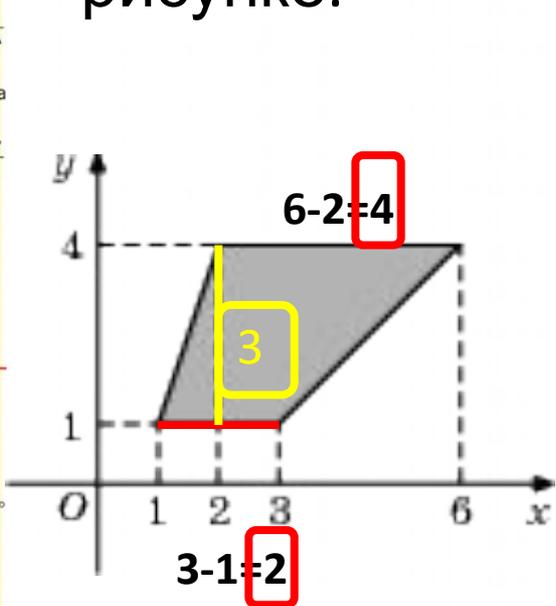
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



# Прототип задания В3 (№ 27572)

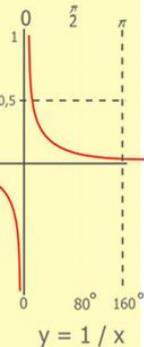
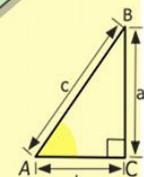
Найдите площадь трапеции, изображенной на рисунке.



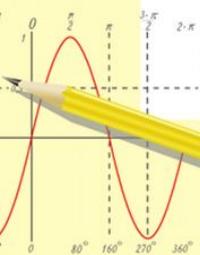
$$S_{\text{трапеции}} = \frac{a+b}{2} \cdot h$$

$$S_{\text{трапеции}} = \frac{2+4}{2} \cdot 3 = 9$$

**Ответ:**  
**9**



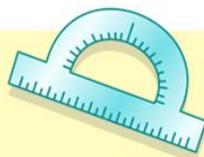
$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

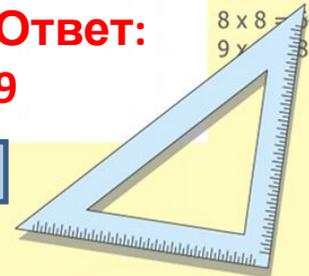
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

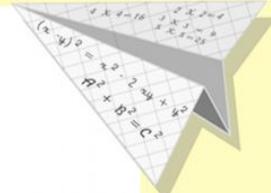
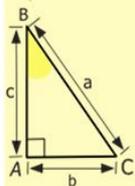
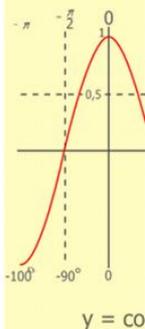


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$

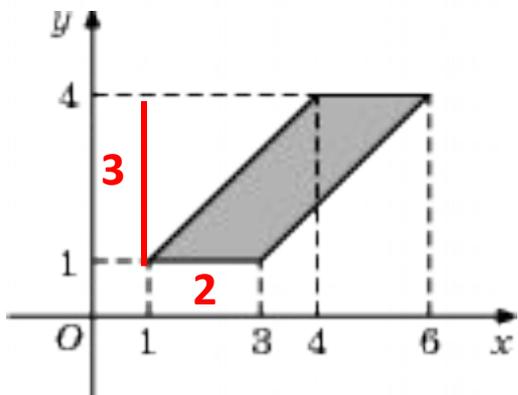


- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81



# Прототип задания В3 (№ 27574) 27575)

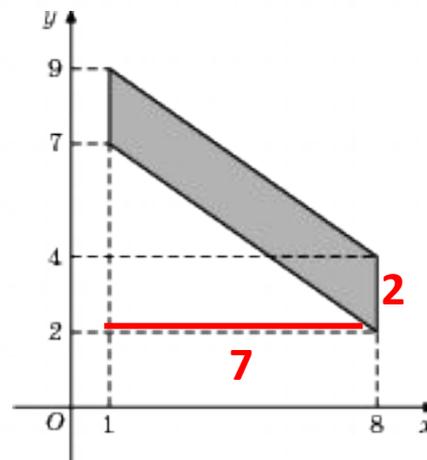
Найдите площадь параллелограмма, изображенного на рисунке.



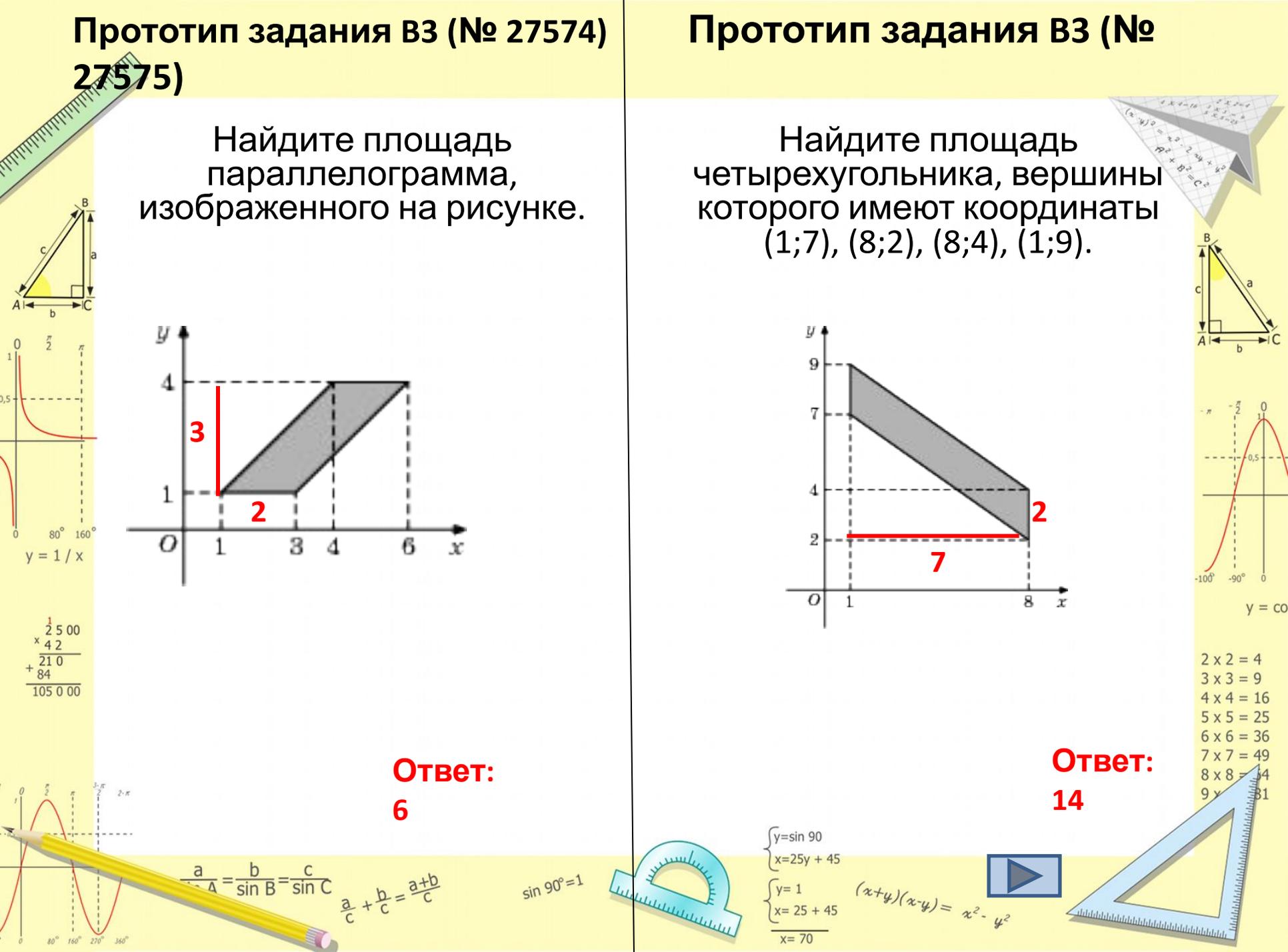
**Ответ:**  
**6**

# Прототип задания В3 (№

Найдите площадь четырехугольника, вершины которого имеют координаты (1;7), (8;2), (8;4), (1;9).



**Ответ:**  
**14**



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

$$(x+y)(x-y) = x^2 - y^2$$

- 2 x 2 = 4
- 3 x 3 = 9
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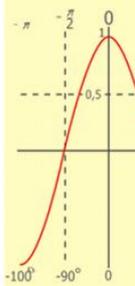
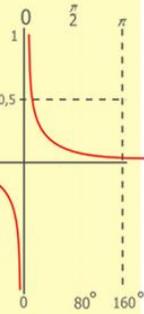
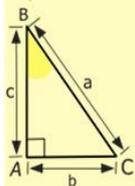
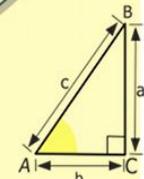
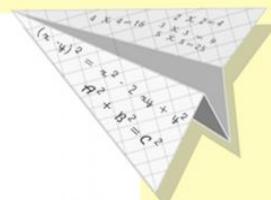
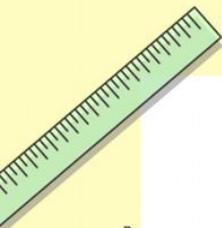
**АВТОР:  
ЗЕНИНА АЛЕВТИНА  
ДМИТРИЕВНА**

**УЧИТЕЛЬ МАТЕМАТИКИ**

**Использованы материалы сайтов:**

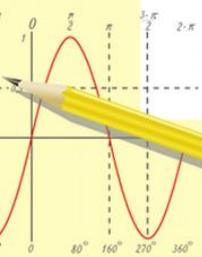
<http://www.mathege.ru:8080/or/ege/Main.html?view=Pos>

<http://live.mephist.ru/show/mathege2010/view/B1/solved/>



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$

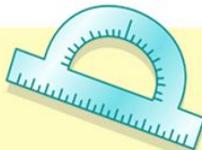
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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

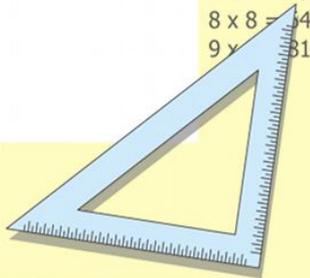
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

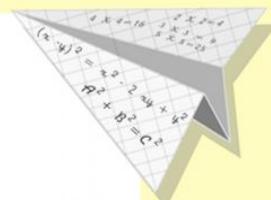
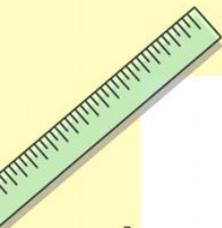
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

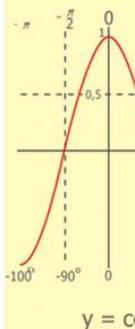
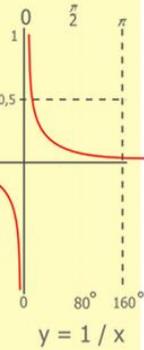
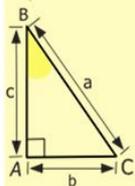
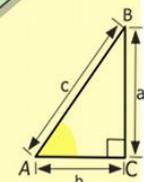
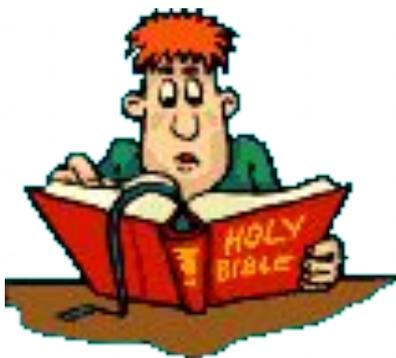
$$(x+y)(x-y) = x^2 - y^2$$





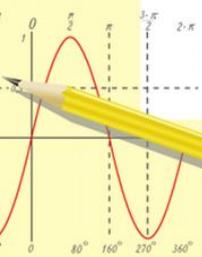
# СКОРО ЕТЭ!

## Еще есть время подготовиться!



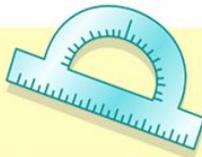
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 105000 \end{array}$$

- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$

