



1

Salim wants to purchase tickets from a vendor to watch a tennis match. The vendor charges a one-time service fee for processing the purchase of the tickets. The equation $T = 15n + 12$ represents the total amount T , in dollars, Salim will pay for n tickets. What does 12 represent in the equation?

- A) The price of one ticket, in dollars
- B) The amount of the service fee, in dollars
- C) The total amount, in dollars, Salim will pay for one ticket
- D) The total amount, in dollars, Salim will pay for any number of tickets

2

A gardener buys two kinds of fertilizer. Fertilizer A contains 60% filler materials by weight and Fertilizer B contains 40% filler materials by weight. Together, the fertilizers bought by the gardener contain a total of 240 pounds of filler materials. Which equation models this relationship, where x is the number of pounds of Fertilizer A and y is the number of pounds of Fertilizer B?

- A) $0.4x + 0.6y = 240$
- B) $0.6x + 0.4y = 240$
- C) $40x + 60y = 240$
- D) $60x + 40y = 240$

3

What is the sum of the complex numbers $2 + 3i$ and $4 + 8i$, where $i = \sqrt{-1}$?

- A) 17
- B) $17i$
- C) $6 + 11i$
- D) $8 + 24i$

4

$$4x^2 - 9 = (px + t)(px - t)$$

In the equation above, p and t are constants. Which of the following could be the value of p ?

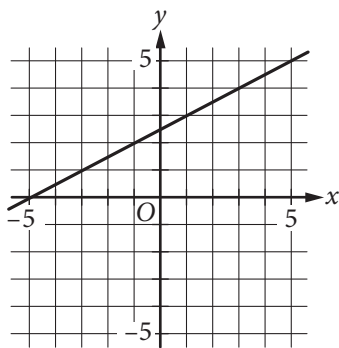
- A) 2
- B) 3
- C) 4
- D) 9



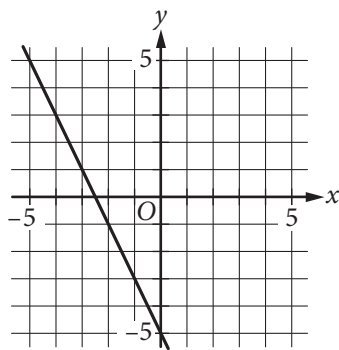
5

Which of the following is the graph of the equation $y = 2x - 5$ in the xy -plane?

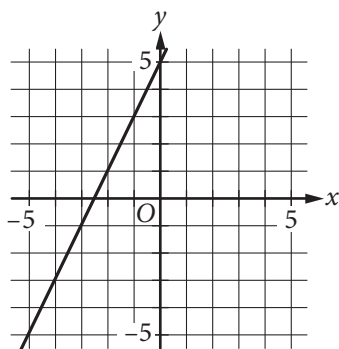
A)



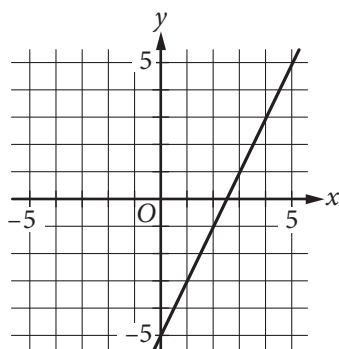
B)



C)



D)





6

If $x = \frac{2}{3}y$ and $y = 18$, what is the value of $2x - 3$?

- A) 21
- B) 15
- C) 12
- D) 10

7

A bricklayer uses the formula $n = 7\ell h$ to estimate the number of bricks, n , needed to build a wall that is ℓ feet long and h feet high. Which of the following correctly expresses ℓ in terms of n and h ?

- A) $\ell = \frac{7}{nh}$
- B) $\ell = \frac{h}{7n}$
- C) $\ell = \frac{n}{7h}$
- D) $\ell = \frac{n}{7+h}$

8

x	$w(x)$	$t(x)$
1	-1	-3
2	3	-1
3	4	1
4	3	3
5	-1	5

The table above shows some values of the functions w and t . For which value of x is $w(x) + t(x) = x$?

- A) 1
- B) 2
- C) 3
- D) 4

9

If $\sqrt{x} + \sqrt{9} = \sqrt{64}$, what is the value of x ?

- A) $\sqrt{5}$
- B) 5
- C) 25
- D) 55