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

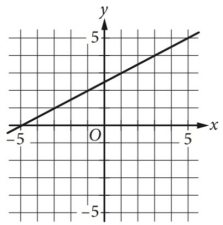
C) 4

D) 9

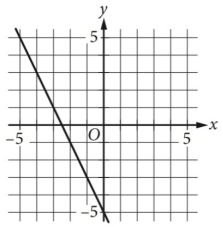
5

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

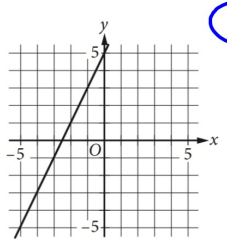
A)



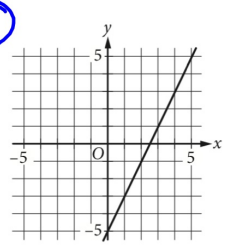
B)



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

$\sqrt{x} + 3 = 8$

$(\sqrt{x})^2 = (5)^2$

$x = 25$