1

What value of *t* satisfies the equation below?

$$\frac{4}{3t} = 24$$

A $t = \frac{1}{18}$

B $t = \frac{1}{2}$

C $t = 2$

D $t = 18$

2.

What is the solution to the equation
$\frac{x}{3} + 1 = -2$?

A -9
B -7
C -3
D -1

3.

What is the solution to the inequality
$-9 \le 2x + 1 < 5$?

A $-5 \le x < 2$
B $-4 \le x < 3$
C $4 \ge x > -3$
D $5 \ge x > -2$

4.

If $5x - 14 \geq 0$, what is the LEAST possible value of x?

A $-\dfrac{14}{5}$

B $-\dfrac{5}{14}$

C $\dfrac{5}{14}$

D $\dfrac{14}{5}$

5.

What is the slope of the line through the points $(3, -2)$ and $(5, 8)$?

A -5

B $-\dfrac{1}{5}$

C $\dfrac{1}{5}$

D 5

6.

What is the vertex of the graph of the function $f(x) = x^2 + 4x - 5$?

A $(-4, -5)$
B $(-2, 7)$
C $(-2, -9)$
D $(7, -2)$

7.

Solve the equation $2x^2 + 3x = 2$.

A $-2, -\dfrac{1}{2}$

B $-2, \dfrac{1}{2}$

C $2, -\dfrac{1}{2}$

D $2, \dfrac{1}{2}$

8.

The line with equation $y = 10x - 2$
intersects the x-axis at the point $(a, 0)$.
What is the value of a?

A $\quad -2$

B $\quad \dfrac{1}{5}$

C $\quad 5$

D $\quad 10$

9.

What is the solution to the equation
$\dfrac{x + 4}{2} = 9 - 3x$?

A $\quad -7$

B $\quad -2$

C $\quad 1$

D $\quad 2$

10.

Which graph shows the values of x that satisfy the inequality below?

$$2x \geq -6$$

A
```
◄────────●──┬──┬──┬──┬──┬──┬──┬──┬──┬──►
    -5  -4  -3  -2  -1  0   1   2   3   4   5   6
```

B
```
◄───────────●──┬──┬──┬──┬──┬──┬──┬──┬──►
    -5  -4  -3  -2  -1  0   1   2   3   4   5   6
```

C
```
◄──┬──┬──●══════════════════════════════►
    -5  -4  -3  -2  -1  0   1   2   3   4   5   6
```

D
```
◄──┬──┬──┬──●════════════════════════════►
    -5  -4  -3  -2  -1  0   1   2   3   4   5   6
```
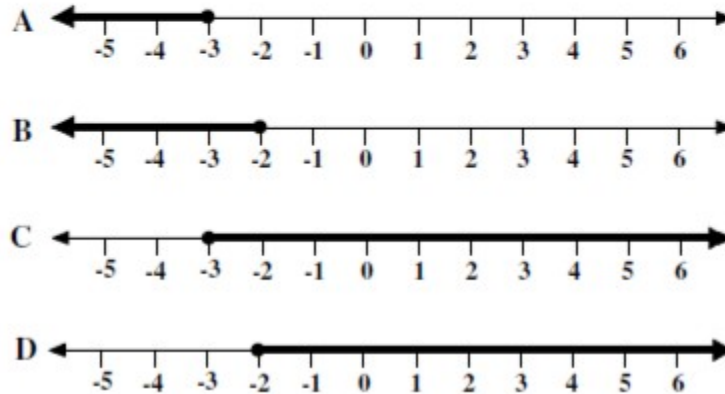
BONUS

11.

The formula for finding the perimeter, P, of a rectangle with length l and width w is given.

$$P = 2l + 2w$$

Which formula shows how the length of a rectangle can be determined from the perimeter and the width?

Ⓐ $l = \dfrac{P}{2} - 2w$

Ⓑ $l = \dfrac{P-2w}{2}$

Ⓒ $l = \dfrac{P}{2} + w$

Ⓓ $l = \dfrac{P-2}{2w}$