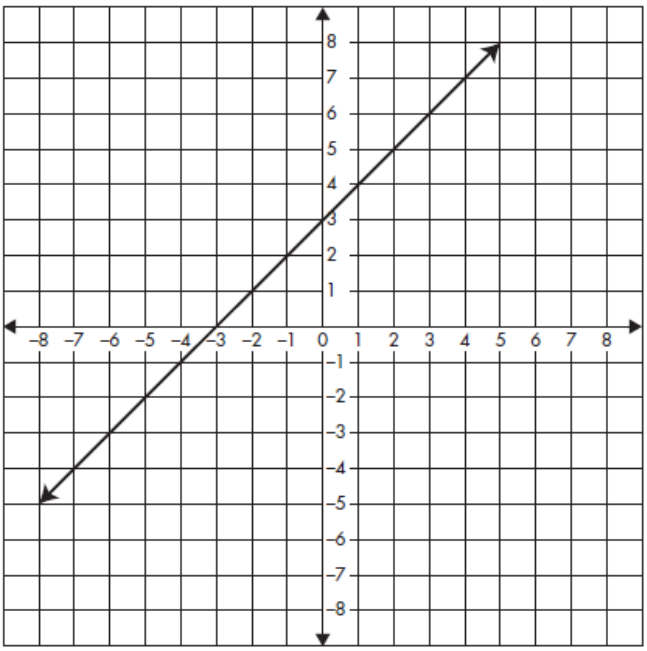
26 A line is shown on the coordinate grid below.



Which of the following represents an equation of the line?

(F) $y = 3x + 1$

(G) $y = 3x - 1$

(H) $y = x + 3$

(I) $y = x - 3$

27 $\dfrac{(6\sqrt{5})(3\sqrt{6})}{2\sqrt{10}}$ can be expressed as $\sqrt{x}$. What is the value of x?

28 A function is defined as follows: $f(x) = -x^2 + 11x - 5$. If the domain is {0, 6, 8, 10 }, what is the highest range value?

(F) 10

(G) 25

(H) 35

(I) 40

Answers

26 **(H)**

The y-intercept is (0, 3), which is displayed only in answer choice (H). To verify the slope, choose two points on the graph, such as (–3, 0) and (0, 3). The corresponding slope is $\frac{3-0}{0-(-3)}=\frac{3}{3}=1$. In the form $y = mx + b$, m represents the slope and b represents the y-coordinate of the y-intercept. Thus, the equation becomes $y = 1x + 3$, and $1x$ may be written as simply x.

27 The correct answer is 243. $\frac{(6\sqrt{5})(3\sqrt{6})}{2\sqrt{10}}=\frac{18\sqrt{30}}{2\sqrt{10}}=9\sqrt{3}$. Since $9 = \sqrt{81}$, we can write $9\sqrt{3}$ as $(\sqrt{81})(\sqrt{3})=\sqrt{243}$.

28 **(G)**

The corresponding range values are found by substituting each of 0, 6, 8, and 10 into $f(x) = -x^2 + 11x - 5$. Then $f(0) = -0^2 + 11(0) - 5 = -5$, $f(6) = -6^2 + 11(6) - 5 = -36 + 66 - 5 = 25$, $f(8) = -8^2 + 11(8) - 5 = -64 + 88 - 5 = 19$, and $f(10) = -10^2 + 11(10) - 5 = -100 + 110 - 5 = 5$. The highest (range) value among these is 25.