1. Which expression is equivalent to $5(x^2 - 4x) - (x + 1)$?

   A $5x^2 - 21x + 1$

   B $5x^2 - 5x - 1$

   C $5x^2 - 21x - 1$

   D $5x^2 - 5x + 1$

2. Simplify the expression $3(x + 1) - 2(3x + 7)$.

   F $-3x - 11$

   G $-3x - 10$

   H $-3x - 8$

   J $-3x + 17$

3. Simplify the algebraic expression $5(x - 2) + 2(3x^2 - 12x + 12)$.

   F $-x + 10$

   G $-13x + 14$

   H $6x^2 - 7x + 10$

   J $6x^2 - 19x + 14$

4. If $(-3.5, y)$ is a solution to the equation $2x - 5y = 10$, what is the value of y?

   F -3.4

   G 13.75

   H -0.6

   J -3.75

5. Solve the equation $2a - 6 + 5a = 3a + 10$ for a.

6. In the equation $y = 2x^2 - 5x - 18$, which is a value of x when $y = 0$?

   A -18

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

   C 2

   D $4\frac{1}{2}$

7. Which of these are characteristics of the parent function of a quadratic equation?

I. The parent function of a quadratic equation has the vertex at (0, 0).

II. The parent function of a quadratic equation opens downward.

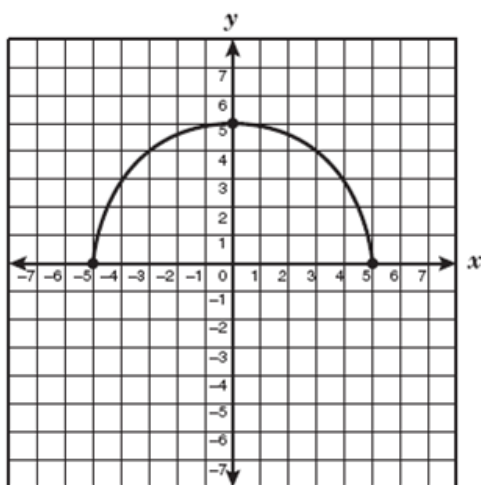III. The parent function of a quadratic equation has the y-axis as its line of symmetry.

F I and II only

G I and III only

H II and III only

J I, II, and III

8. Which equation is the parent function of the graph represented below?
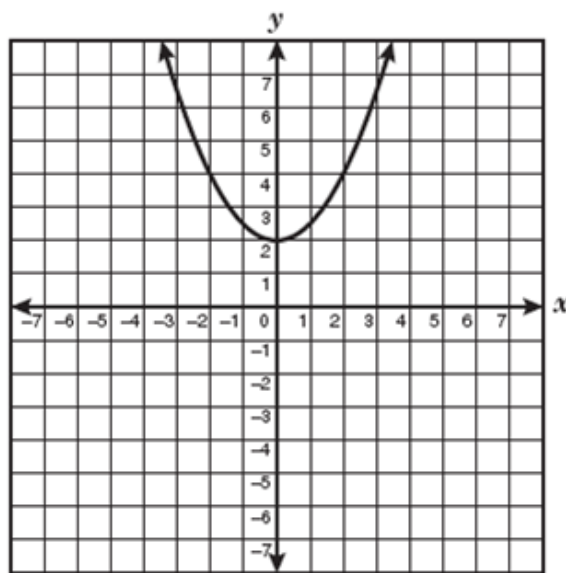
F $y = |x|$

G $y = x$

H $y = x^2$
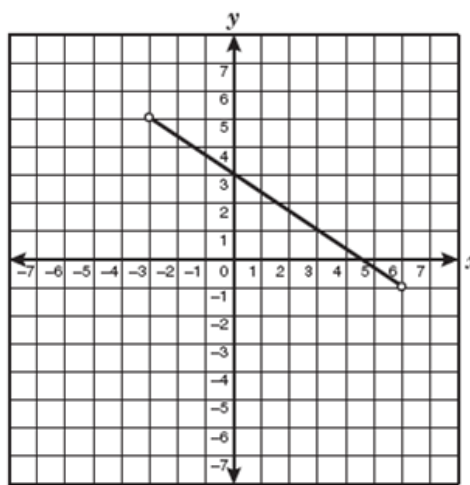
J $y = \sqrt{x}$

9. The graph of the function $y = \sqrt{25 - x^2}$ is shown on the coordinate grid below.
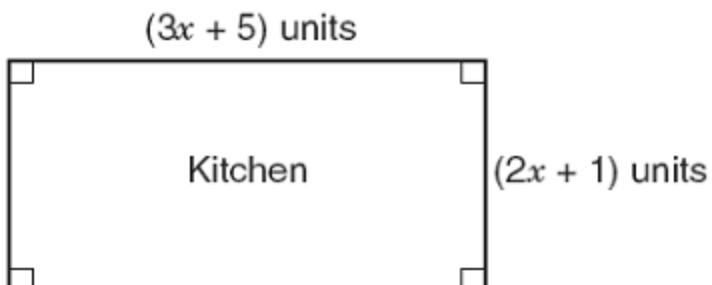

What is the domain of the function?

F $x \le 5$

G $x \ge -5$

H $-5 \le x \le 5$

J $0 \le x \le 5$

10. Which inequality best represents the domain of the function shown on the graph?

F $-3 \le x \le 6$

G $-3 < x < 6$

H $-1 < x < 5$

J $-1 \le x \le 5$
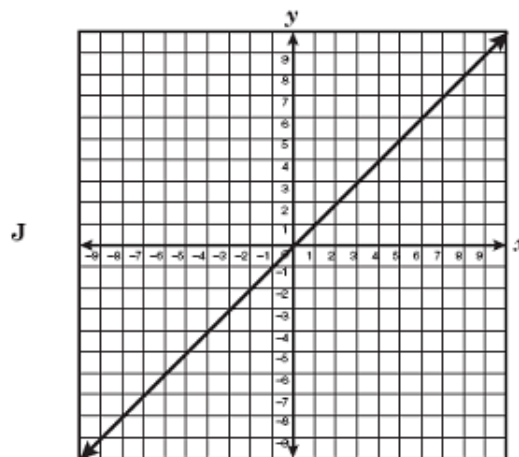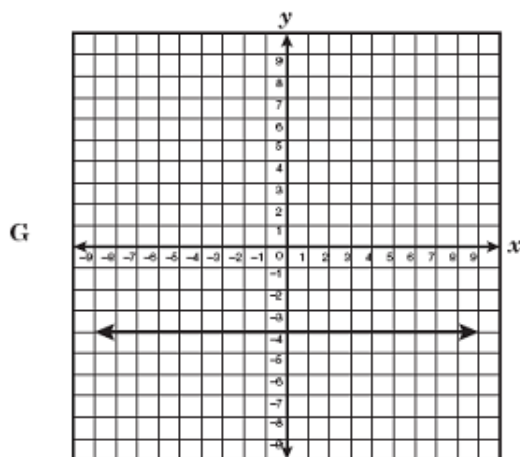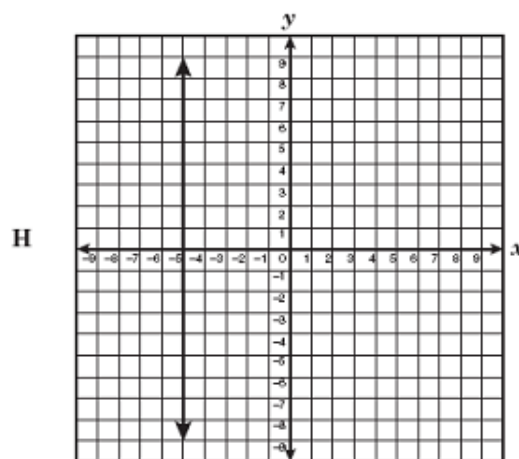
11. Tammy drew a floor plan for her kitchen, as shown below.

$(3x + 5)$ units

Kitchen $(2x + 1)$ units
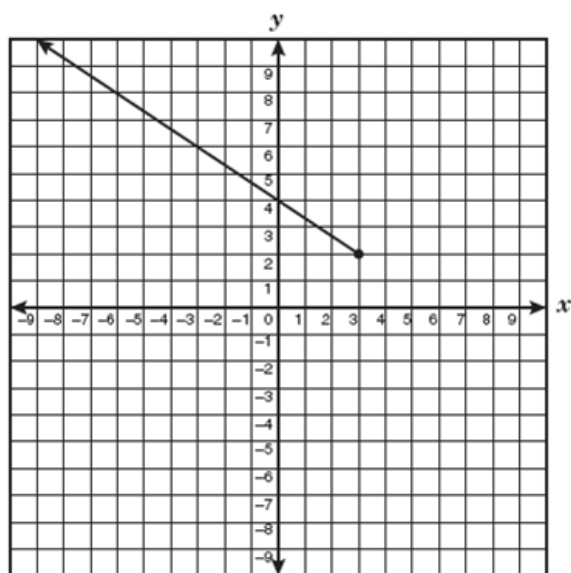
Which expression represents the area of Tammy's kitchen floor in square units?

F $6x^2 + 30x + 5$

G $6x^2 + 13x + 5$

H $10x + 12$

J $5x + 6$

12. Which graph below best represents the linear parent function?
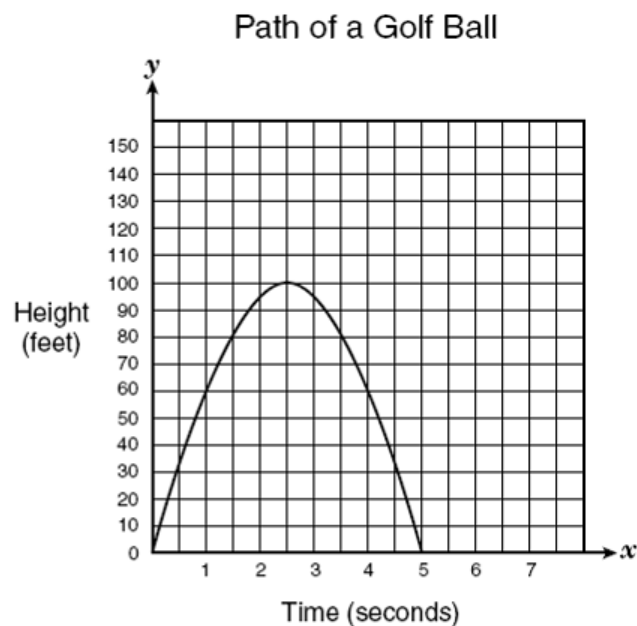
F

H

G

J
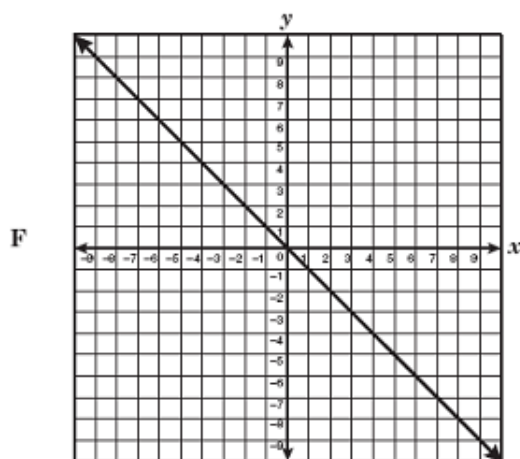
13. Which inequality best describes the range of the function represented by this graph?

A $y \leq 3$

B $y \leq 2$

C $y \geq 3$

D $y \geq 2$

14. The graph shows the path of a golf ball.

Path of a Golf Ball

What is the range of this function?

F $0 < y < 100$

G $0 \leq y \leq 100$

H $0 \leq x \leq 5$

J $0 < x < 5$

15. A function is described by the equation $y = 2x^2 - 5x - 3$, in which y is dependent on x. If a value for the independent variable is selected from the set $\{-4, -1, 0, 2, 5\}$, which of the following is a corresponding dependent value?

A 9

B -6

C -5

D 0