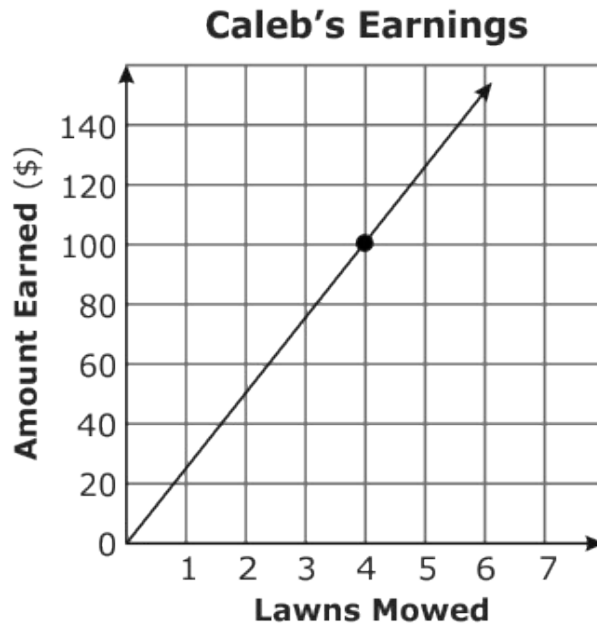TEST NAME: **Expressions & Equations EOG Station Review**
TEST ID: **2475135**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
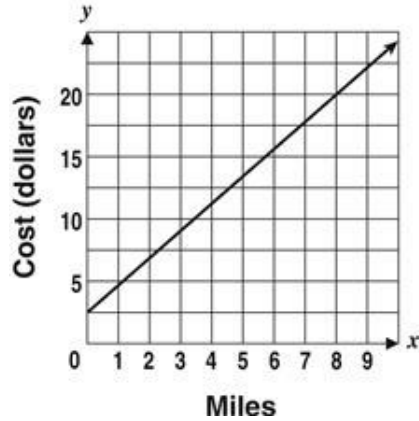TEST CATEGORY: **My Classroom**

1. Taylor uses the equation $y = 20x$ to calculate the amount she earns mowing x lawns. The graph below shows the amount Caleb earns mowing lawns.
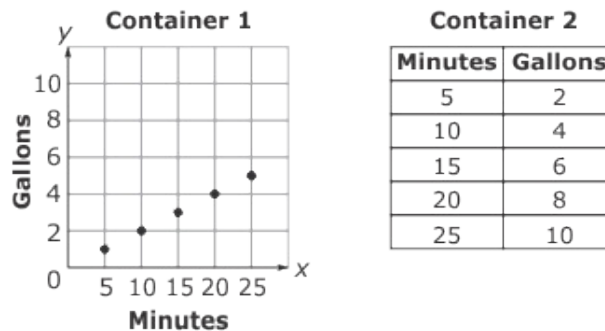
Caleb's Earnings

Which statement is true?

A. Taylor and Caleb earn the same amount per lawn.

B. Taylor earns $5 more per lawn than Caleb.

C. Caleb earns $5 more per lawn than Taylor.

2. **The graph below represents the function for cab fare based on the number of miles the cab travels.**

Miles

What does the slope of the graph represent?
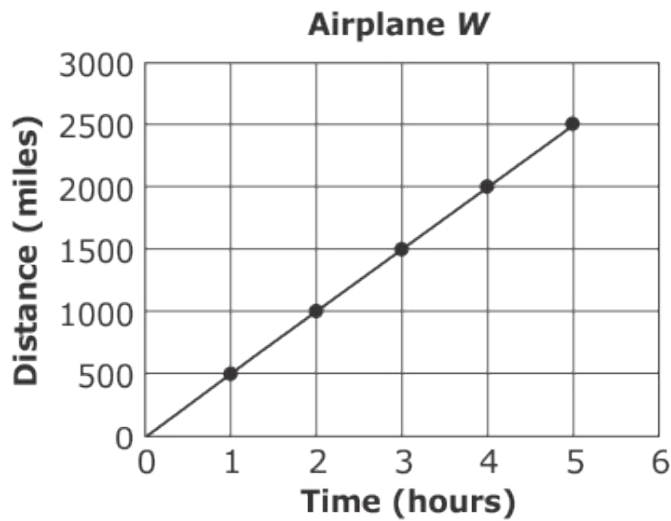
A. cost per mile

B. cost per minute

C. initial cost for ordering the cab

D. amount of profit the cab driver earns

3. Rain is flowing into two containers at different rates. The figure below shows the volume of water in each container at different times.

Container 1

Minutes

Container 2

Minutes	Gallons
5	2
10	4
15	6
20	8
25	10

What is the difference in the rate of change between the two containers?

A. $\frac{1}{5}$ gallon per minute

B. $\frac{3}{5}$ gallon per minute

C. $\frac{5}{2}$ gallons per minute

D. $\frac{15}{2}$ gallons per minute

4. The equation $y = 450x$ represents the number of miles airplane Z traveled, y, for a flight of x hours. The graph below shows the number of miles airplane W traveled for a 5-hour flight.

Airplane W

After 2 hours, which airplane had traveled the farthest and by how much?

A. Airplane W traveled 50 miles farther.

B. Airplane Z traveled 50 miles farther.

C. Airplane W traveled 100 miles farther.

D. Airplane Z traveled 100 miles farther.

5. The table below shows the amount Amanda saved over several months.

Amount (in dollars)	Months
100	2
200	4
300	6
400	8

Mary's savings, S, is given by the equation $S = 60m$, where m represents the number of months she has saved. Which statement correctly compares Amanda's and Mary's monthly savings?

A. Mary saves $60 more than Amanda every month.

B. Amanda saves $50 more than Mary every month.

C. Amanda saves $40 more than Mary every month.

D. Mary saves $10 more than Amanda every month.

6. **Which of the following is the slope-intercept form of the equation $3y = 2(x - 6)$?**

   A. $x = \frac{3}{2}y + 6$

   B. $y = \frac{2}{3}x - 4$

   C. $3y = 2x - 12$

   D. $2x - 3y = 12$

7. **Bridget collected the eggs her chickens had laid and gave $\frac{1}{2}$ to her neighbor. She used 6 of the remaining eggs to make breakfast. She has 8 eggs left. The number of eggs, e, that Bridget originally collected is represented by the equation below.**

$$\frac{e}{2} - 6 = 8$$

   How many eggs did Bridget collect from the chickens this morning?

   A. 4

   B. 7

   C. 14

   D. 28

8. **Lisa wants to apply the distributive property to the following equation:**

$$\frac{4}{5}(x - 10) = 20$$

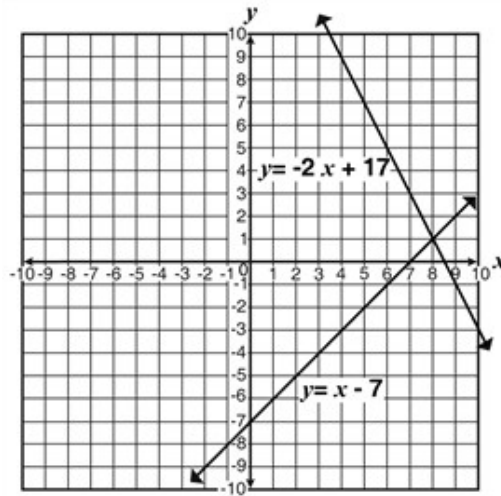   **Which equation shows her next step?**

   A. $\frac{4}{5}x + 8 = 20$

   B. $\frac{4}{5}x - 8 = 20$

   C. $\frac{4}{5}x + 10 = 20$

   D. $\frac{4}{5}x - 10 = 20$

9. **Which equation is equivalent to $3(2m + 7) = -5(6 + m)$?**

   A. $6m + 7 = -30 + m$

   B. $6m + 7 = -30 - m$

   C. $6m + 21 = -30 + 5m$

   D. $6m + 21 = -30 - 5m$

10. **The linear equations graphed in the coordinate plane below intersect.**

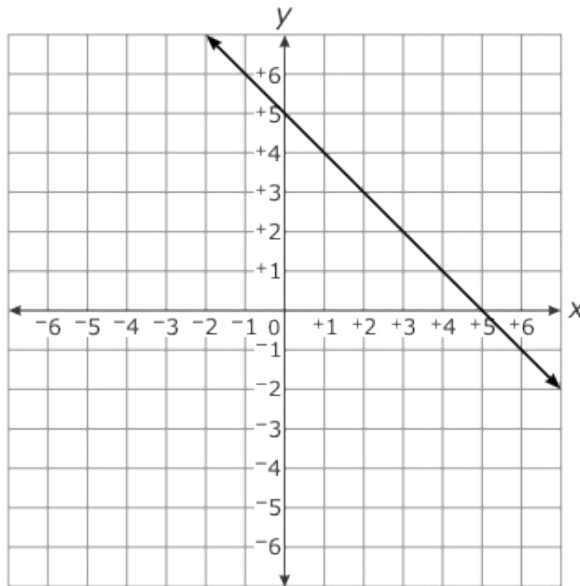**Which coordinate point is the solution?**

A. $(0, -7)$

B. $(1, 8)$

C. $(7, 0)$

D. $(8, 1)$

11. **What is the *x*-coordinate of the ordered pair that satisfies this system of linear equations?**

$$3x - 5y = 10$$
$$-x + 3y = -6$$

A. -2

B. 0

C. 2

D. 3

12. Which ordered pair would be the point of intersection of the graph below and $y = x + 1$?

A. (0, 5)

B. (1, 4)

C. (2, 3)

D. (3, 4)