Math 1 Released Test CALCULATOR INACTIVE
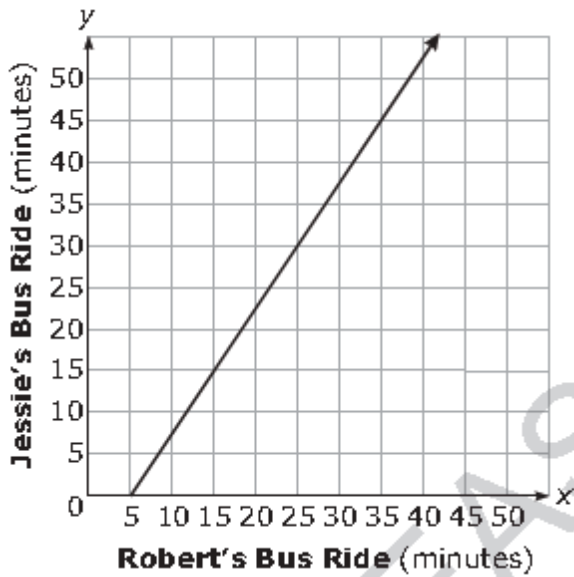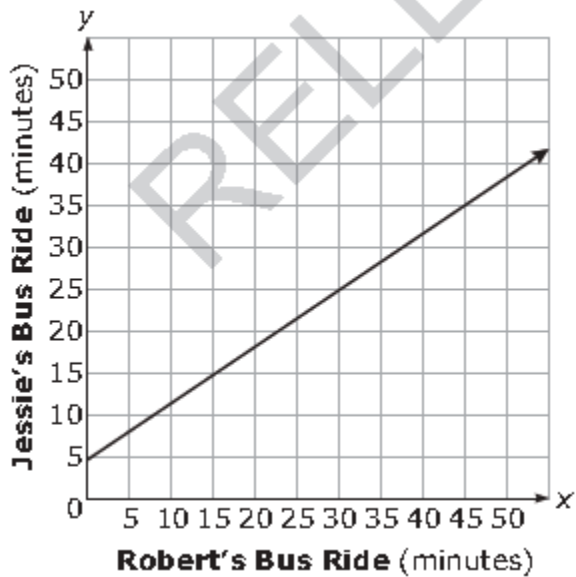
1. Jessie's bus ride to school is 5 minutes more than $\frac{2}{3}$ the time of Robert's bus ride. Which graph shows the possible times of Jessie's and Robert's bus rides?
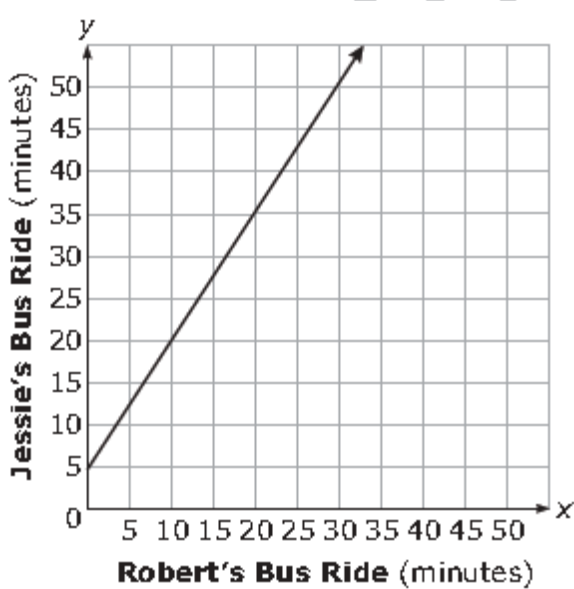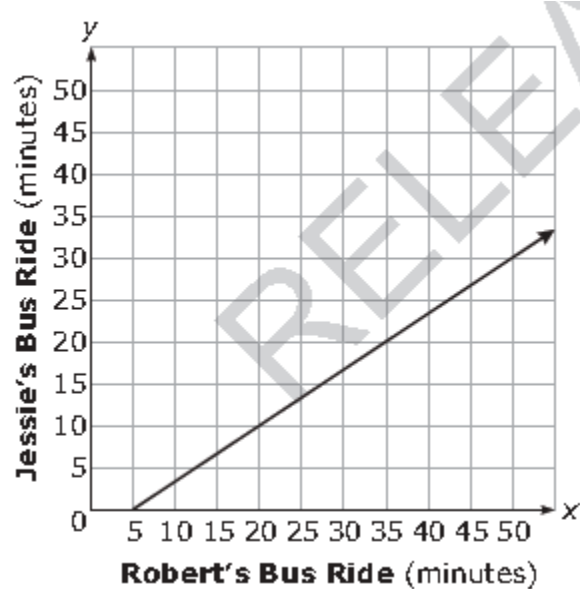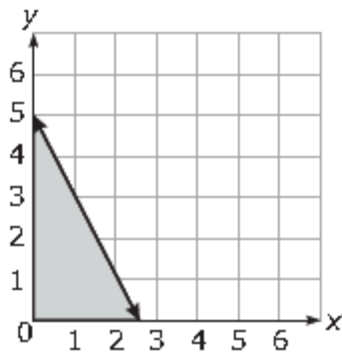
A

B

C

D

2   What scenario could be modeled by the graph below?

A   The number of pounds of apples, y, minus two times the number of pounds of oranges, x, is at most 5.

B   The number of pounds of apples, y, minus half the number of pounds of oranges, x, is at most 5.
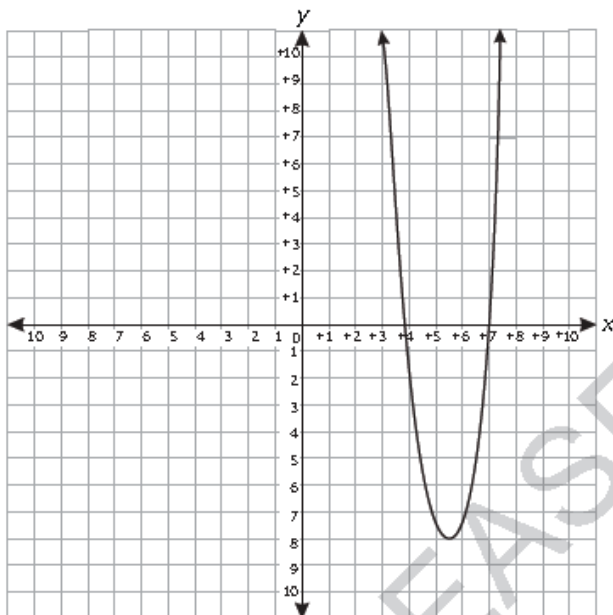
C   The number of pounds of apples, y, plus two times the number of pounds of oranges, x, is at most 5.

D   The number of pounds of apples, y, plus half the number of pounds of oranges, x, is at most 5.

3   Which expression is equivalent to $t^2 - 36$?

A $(t - 6)(t - 6)$

B $(t + 6)(t - 6)$

C $(t - 12)(t - 3)$

D $(t - 12)(t + 3)$

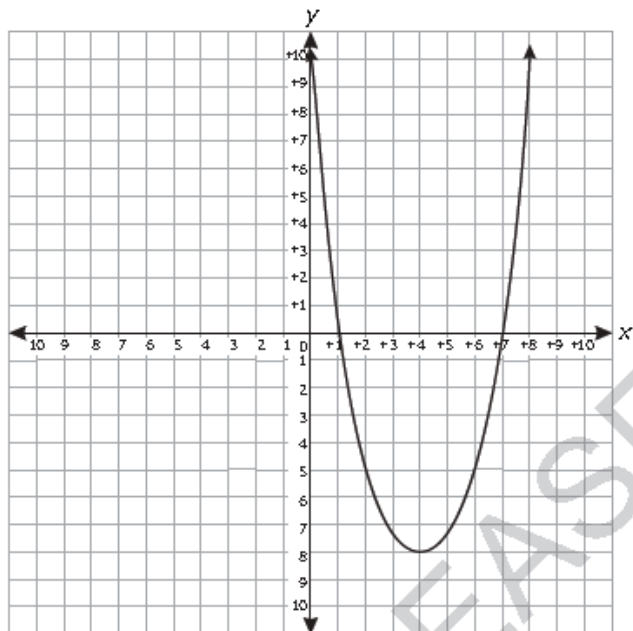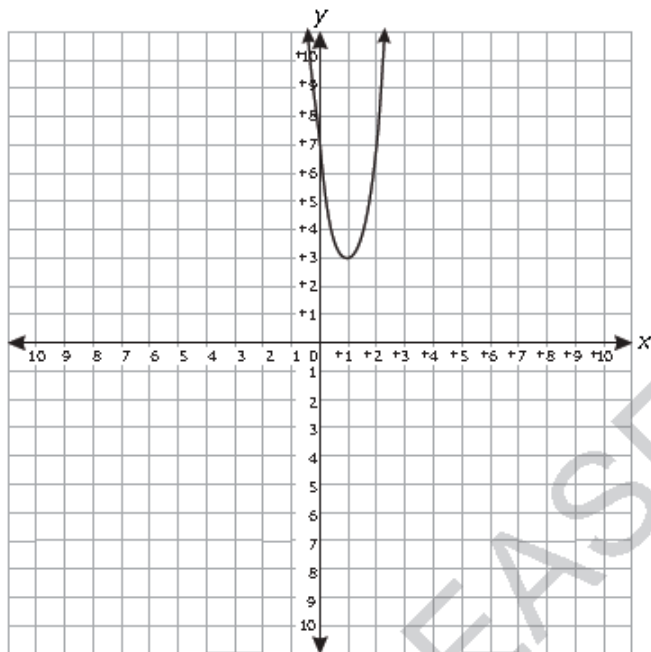4   Which is the graph of the function $f(x) = 4x^2 - 8x + 7$?

A
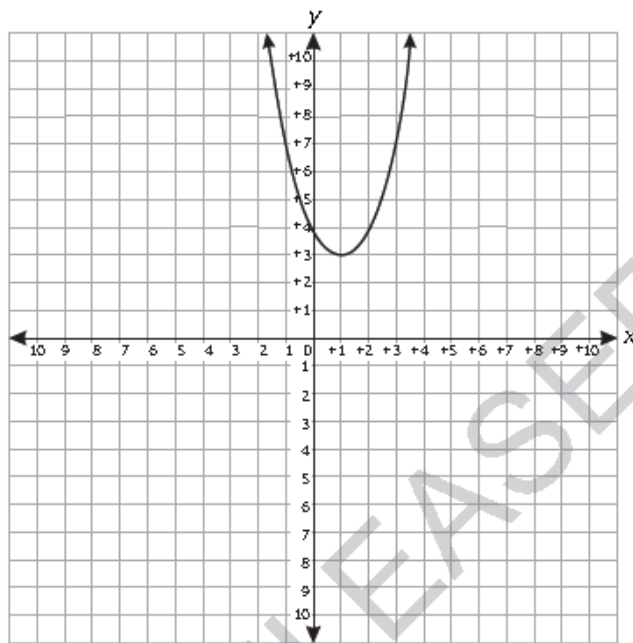
B

C

D

5   The floor of a rectangular cage has a length 4 feet greater than its width, w. James will increase both dimensions of the floor by 2 feet. Which equation represents the new area, N, of the floor of the cage?

A $N = w^2 + 4w$

B $N = w^2 + 6w$

C $N = w^2 + 6w + 8$

D $N = w^2 + 8w + 12$

Questions 6 through 15 require you to write your answers in the boxes provided on your answer sheet. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

6   Two boys, Shawn and Curtis, went for a walk. Shawn began walking 20 seconds earlier than Curtis.

- Shawn walked at a speed of 5 feet per second.
- Curtis walked at a speed of 6 feet per second.

For how many seconds had Shawn been walking at the moment when the two boys had walked exactly the same distance?

7   The math club sells candy bars and drinks during football games.

- 60 candy bars and 110 drinks will sell for $265.
- 120 candy bars and 90 drinks will sell for $270.

How much does each candy bar sell for?

(Note: Express the answer in dollars.cents.)

8   What is the smallest of 3 consecutive positive integers if the product of the smaller two integers is 5 less than 5 times the largest integer?

9   The function $f(t) = {}^-5t^2 + 20t + 60$ models the approximate height of an object t seconds after it is launched. How many seconds does it take the object to hit the ground?

10   Two times Antonio's age plus three times Sarah's age equals 34. Sarah's age is also five times Antonio's age. How old is Sarah?

11 The function $f(x) = 2(2)^x$ was replaced with $f(x) + k$, resulting in the function graphed below.
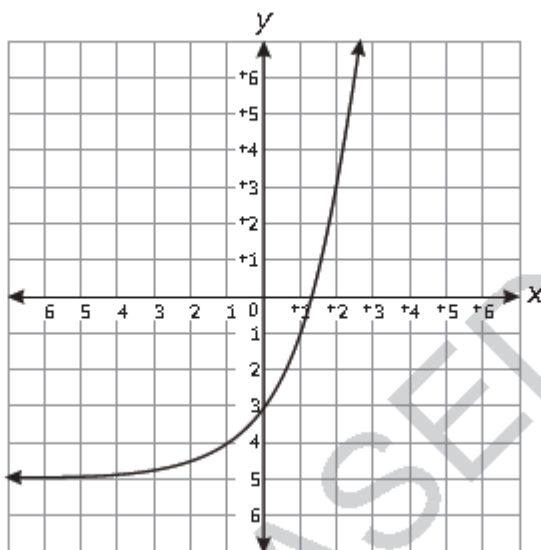
What is the value of k?

12 Suppose that the function $f(x) = 2x + 12$ represents the cost to rent x movies a month from an internet movie club. Makayla now has $10. How many more dollars does Makayla need to rent 7 movies next month?

13 The larger leg of a right triangle is 3 cm longer than its smaller leg. The hypotenuse is 6 cm longer than the smaller leg. How many centimeters long is the smaller leg?

14 Katie and Jennifer are playing a game.

· Katie and Jennifer each started with 100 points.
· At the end of each turn, Katie's points doubled.
· At the end of each turn, Jennifer's points increased by 200.

At the start of which turn will Katie first have more points than Jennifer?

15 Alex walked 1 mile in 15 minutes. Sally walked 3,520 yards in 24 minutes. In miles per hour, how much faster did Sally walk than Alex?

(Note: 1 mile = 1,760 yards)