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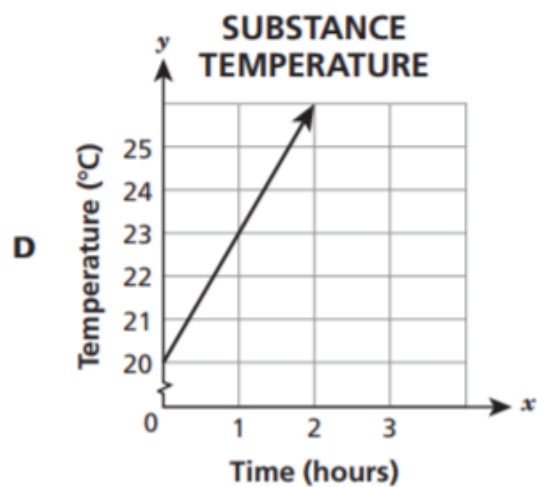
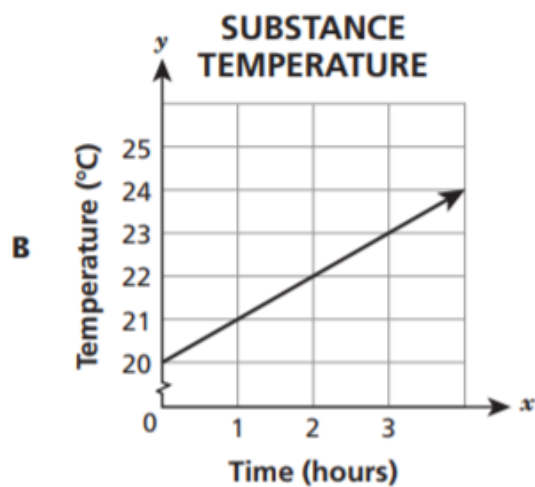
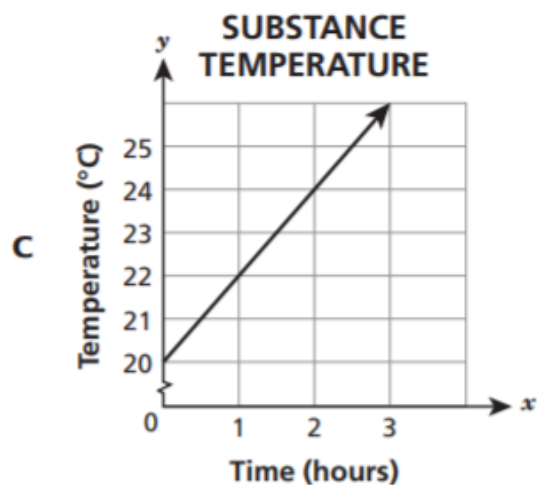
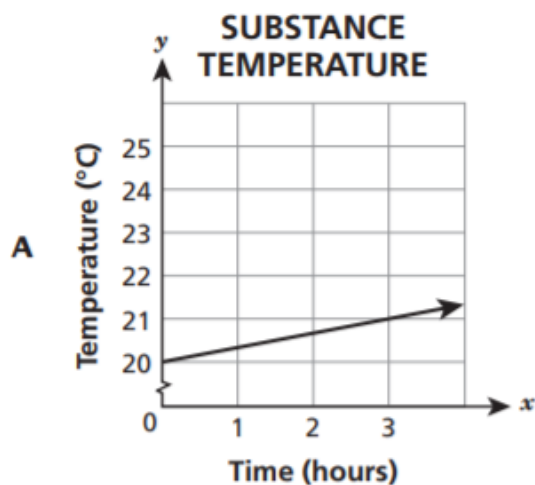
Date: \_\_\_\_\_

Ms. Streffacio

Class: \_\_\_\_\_

### 8.EE.5

1. During an experiment, the temperature of a substance increased at a constant rate of three degrees Celsius ( $^{\circ}\text{C}$ ) per hour. Which graph represents this relationship?



Which of the following is the fastest unit rate? (1 mile = 1,760 yards = 5,280 feet)

- A** 30 miles per hour      **C** 700 yards per minute  
**B** 40 feet per second      **D** 2,200 feet per minute

Which equation shows the relationship between the number of pens,  $p$ , and the total cost,  $c$ ?

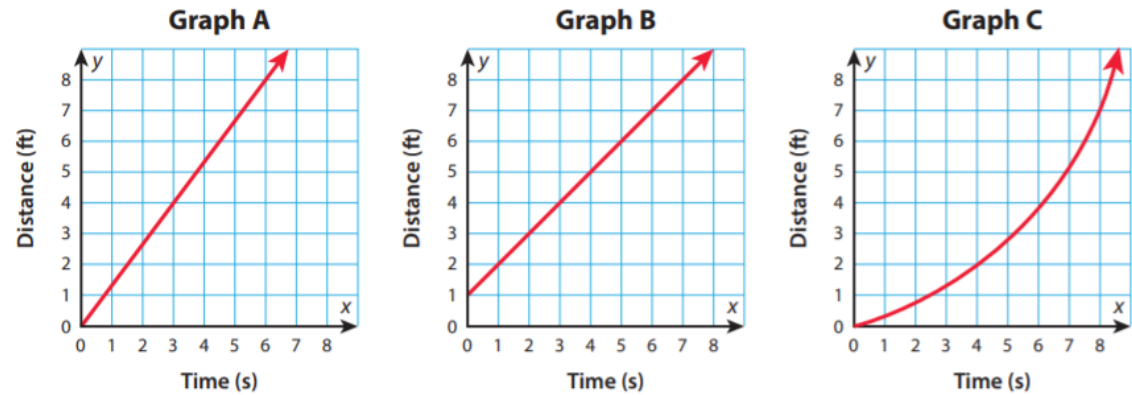
Number of Pens ( $p$ )	5	10	15	20
Cost ( $c$ )	\$3.95	\$7.90	\$11.85	\$15.80

- A**  $c = 1.27p$                       **C**  $c = 3.95p$   
**B**  $c = 0.79p$                       **D**  $c = 5p$

The unit cost per pound for green beans is represented by the equation  $y = 1.2x$ . Which of these points is NOT on the graph of this proportional relationship?

- A** (0, 0)  
**B** (2, 2.4)  
**C** (4, 4.8)  
**D** (12, 10)

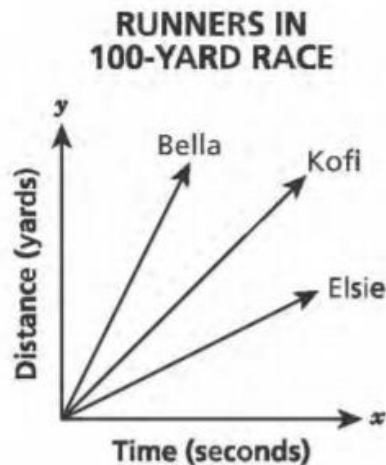
Look at the three graphs below.



Which of the following statements is true?

- A** Graph B shows a proportional relationship between distance and time.  
**B** Graph C shows an object that slows down over time.  
**C** The unit rate in Graph B is 2 feet per second.  
**D** An object represented by Graph A is moving faster than an object represented by Graph B.

The graph below shows the relationship between the distances run and the time for three people in a 100-yard race.



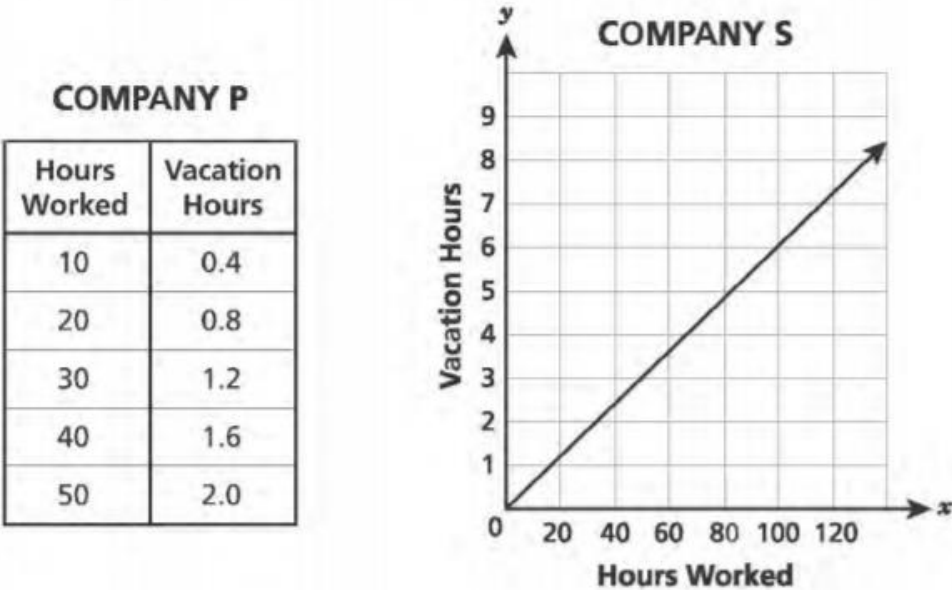
The relationship between the distance run and the time for Kofi can be represented by the equation  $y = 15.55x$ , where he ran  $y$  yards in  $x$  seconds. Which two equations could be used to represent this relationship for Bella and Elsie?

- A Bella:  $y = 15.15x$ ; Elsie:  $y = 15.85x$
- B Bella:  $y = 15.85x$ ; Elsie:  $y = 15.65x$
- C Bella:  $y = 15.45x$ ; Elsie:  $y = 15.15x$
- D Bella:  $y = 15.85x$ ; Elsie:  $y = 15.15x$

The cost  $y$  (in dollars) for  $x$  ounces of peanuts is represented by the equation  $y = 0.23x$ . The cost  $y$  (in dollars) for  $x$  ounces of pecans is represented by the equation  $y = 0.45x$ . Which statement is true? Select all that apply.

- A The cost for peanuts is \$0.22 per ounce less than the cost for pecans.
- B The cost for peanuts is greater than the cost for pecans.
- C The cost for 8 ounces of peanuts is \$3.60.
- D The cost for 8 ounces of pecans is \$3.60.

Two friends work at different companies, P and S. Both companies use the number of hours that an employee works to calculate that employee's vacation hours. The relationship between the number of hours worked and the number of vacation hours for employees at each company is shown in the table and graph, respectively.



Which statement describes the difference in each friend's vacation hours if both work 2,080 hours?

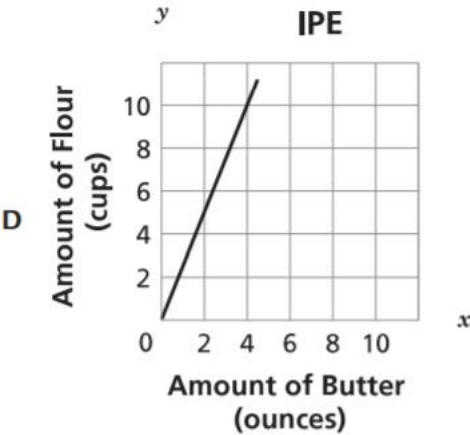
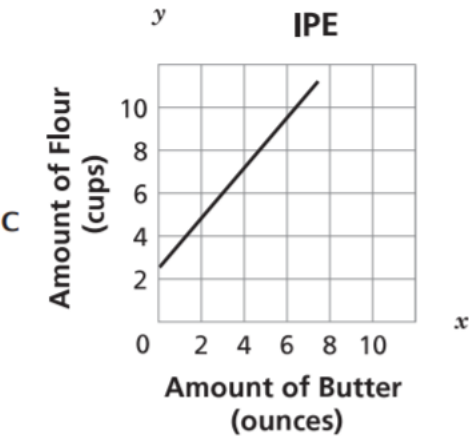
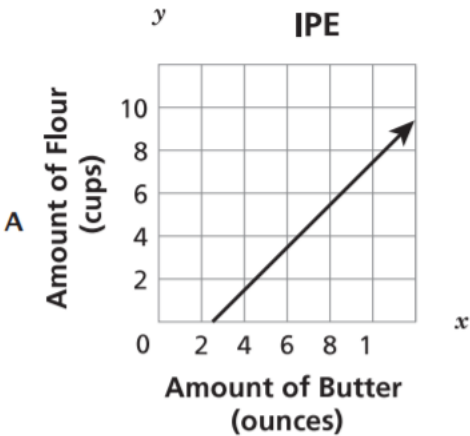
- A The friend at company S will have about 42 more vacation hours than the friend at company P.
- B The friend at company S will have about 46 more vacation hours than the friend at company P.
- C The friend at company P will have about eight more vacation hours than the friend at company S.
- D The friend at company P will have about nine more vacation hours than the friend at company S.

Which equation can be used to represent the distance  $d$  for the times  $t$  given in the table?

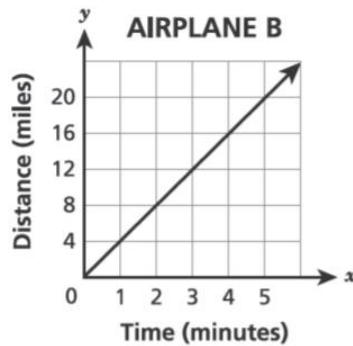
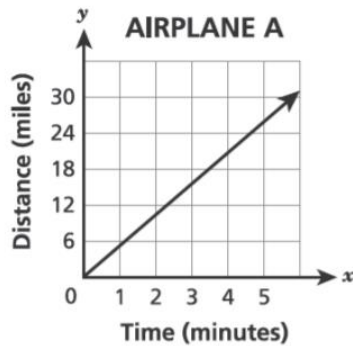
Time, $t$ (sec)	4	6	8	10
Distance, $d$ (ft)	234	351	468	585

- A  $d = 234t$
- B  $d = 58.5t$
- C  $d = 4t$
- D  $d = \frac{1}{58.5}t$

A cook uses 2.5 cups of flour for each ounce of butter in a recipe. Which graph represents the relationship between the amount of flour and the amount of butter in the recipe?



The graphs below show the relationship between elapsed time and distance traveled by airplane A and airplane B after each airplane reaches its cruising speed.



Airplane C is traveling at a different cruising speed. The equation  $y = \frac{27}{6}x$  can be used to determine  $y$ , the number of miles traveled by airplane C in  $x$  minutes. Which statement accurately compares the cruising speed of airplane C to airplanes A and B?

- A The cruising speed of airplane C is less than the cruising speeds of both airplanes A and B.
- B The cruising speed of airplane C is greater than the cruising speeds of both airplanes A and B.
- C The cruising speed of airplane C is greater than the cruising speed of airplane A and less than the cruising speed of airplane B.
- D The cruising speed of airplane C is less than the cruising speed of airplane A and greater than the cruising speed of airplane B.

Kevin and Christy both saved money for their class trip. Kevin saved the same amount each week. The total amount that Kevin saved at the end of every two weeks is shown in the table below.

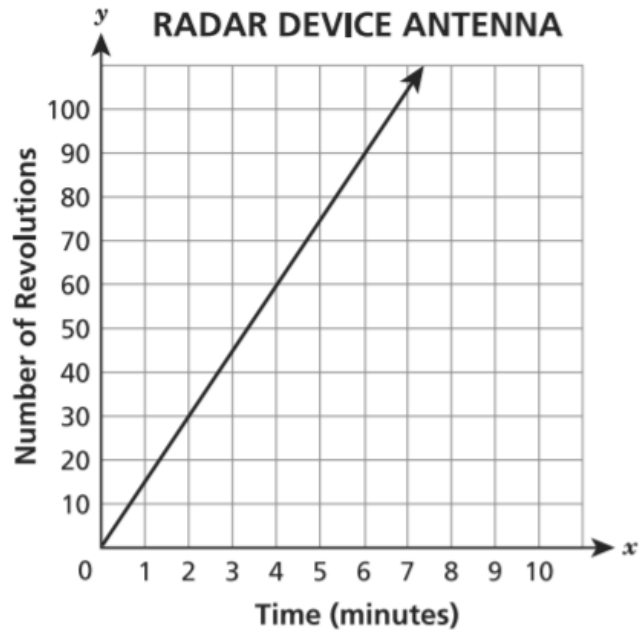
### KEVIN'S SAVINGS

Time (weeks)	Total Amount Saved
2	\$46
4	\$92
6	\$138

Christy's savings can be modeled by the equation  $y = 26x$ , where  $y$  is the total amount of money saved in  $x$  weeks. Which statement correctly compares the rates at which Kevin and Christy saved money?

- A Christy saved \$3 per week more than Kevin.
- B Kevin saved \$10 per week more than Christy.
- C Christy saved \$18 per week more than Kevin.
- D Kevin saved \$20 per week more than Christy.

A radar device has an antenna that revolves at a constant rate. The graph shows the number of revolutions the device will make over time.



Which table shows the data for an antenna that revolves at exactly twice the rate of the antenna described in the graph?

**ANTENNA #1**

**A**

Time (minutes)	Number of Revolutions
15	315
30	660

**ANTENNA #3**

**C**

Time (minutes)	Number of Revolutions
20	40
25	50

**ANTENNA #2**

**B**

Time (minutes)	Number of Revolutions
18	450
36	900

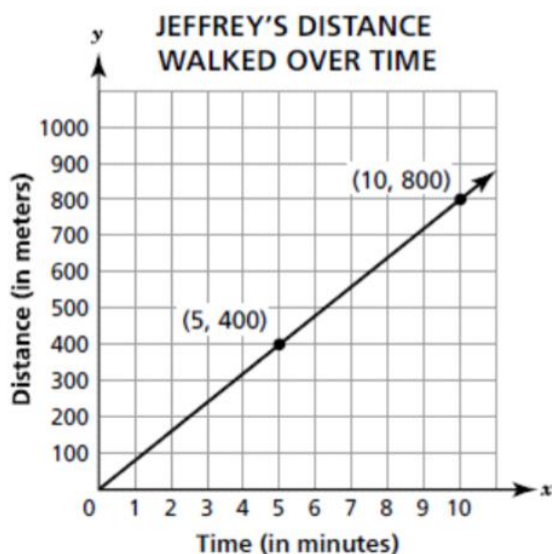
**ANTENNA #4**

**D**

Time (minutes)	Number of Revolutions
22	660
24	720



Jeffrey and Frank walk at different speeds. Frank's walking speed can be represented by the equation  $y = 85x$ , where  $x$  is the time in minutes and  $y$  is the distance in meters. The distance Jeffrey walked over time is shown in the graph below.



**Part A**

How many meters per minute does Frank walk?

- A. 75
- B. 80
- C. 85
- D. 90

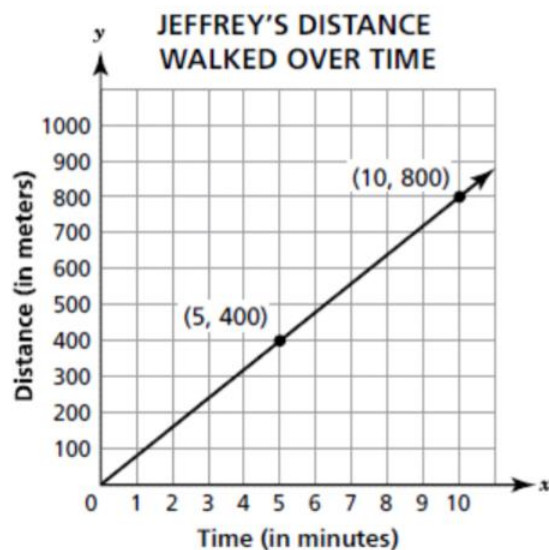
**Part B**

How many meters per minute does Jeffrey walk?

- A. 75
- B. 80
- C. 85
- D. 90



Jeffrey and Frank walk at different speeds. Frank's walking speed can be represented by the equation  $y = 85x$ , where  $x$  is the time in minutes and  $y$  is the distance in meters. The distance Jeffrey walked over time is shown in the graph below.



**Part C**

How does Jeffrey's walking speed compare to Frank's walking speed?

- A. Jeffrey walks 5 meters per minute faster than Frank.
- B. Jeffrey walks 10 meters per minute faster than Frank.
- C. Jeffrey walks 5 meters per minute slower than Frank.
- D. Jeffrey walks 10 meters per minute slower than Frank.

**Part D**

How many minutes does it take Jeffrey to walk the same distance that Frank can walk in 16 minutes?

- A. 14
- B. 15
- C. 17
- D. 18

This graph shows a proportional relationship between the amount of money in Jack's savings account and the number of weeks Jack has been saving money.



Which statement identifies the correct slope, and the correct interpretation of the slope for this situation?

- A. The slope of the line is  $\frac{6}{1}$ , so Jack's savings rate is \$1 dollar every 6 weeks.
- B. The slope of the line is  $\frac{1}{6}$ , so Jack's savings rate is \$6 dollars every week.
- C. The slope of the line is  $\frac{6}{1}$ , so Jack's savings rate is \$6 dollars every week.
- D. The slope of the line is  $\frac{1}{6}$ , so Jack's savings rate is \$1 dollar every 6 weeks.