

## Independent/Dependent Variables

Name: \_\_\_\_\_

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

1. Chakan worked at the warehouse after school. He earned \$9.25 per hour stacking boxes. Which equation correctly relates Chakan's total earnings,  $d$ , to the number of hours he worked,  $h$ ?

A.  $d = 9.25h$

B.  $h = 9.25d$

C.  $d = \frac{9.25}{h}$

D.  $h = \frac{9.25}{d}$

2. The weight of an object on the moon,  $m$ , is about  $\frac{1}{6}$  of the object's weight on Earth,  $e$ .

Which equation represents the approximate weight of an object on the moon in terms of the object's weight on Earth?

A.  $m = \frac{1}{6} + e$

B.  $m = \frac{e}{6}$

C.  $m = 6 + e$

D.  $m = 6e$

3. Michelle makes jewelry boxes containing drawers of equal size. The numbers of drawers in three different jewelry boxes and the corresponding total volumes of the drawers are shown in the table below.

**JEWELRY BOXES**

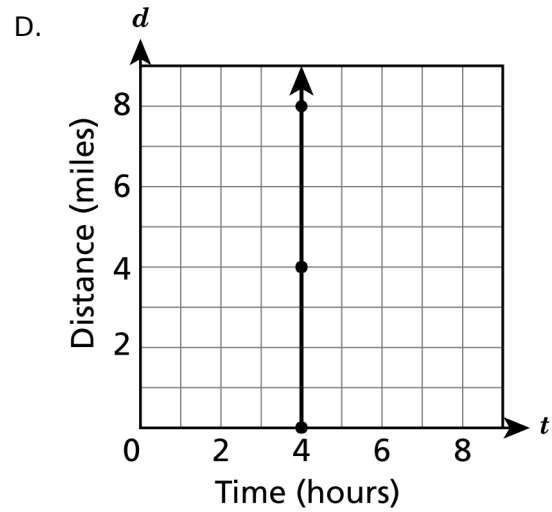
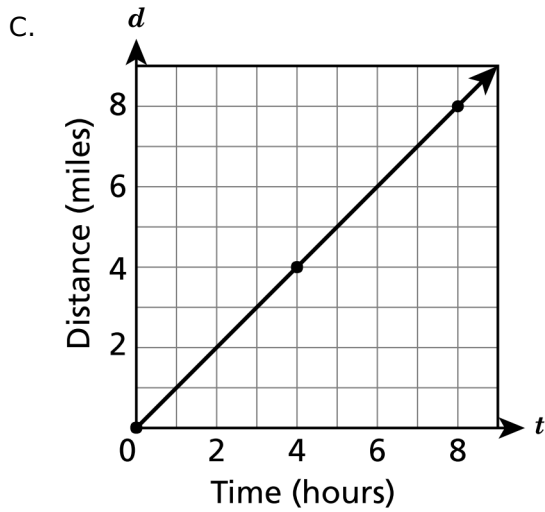
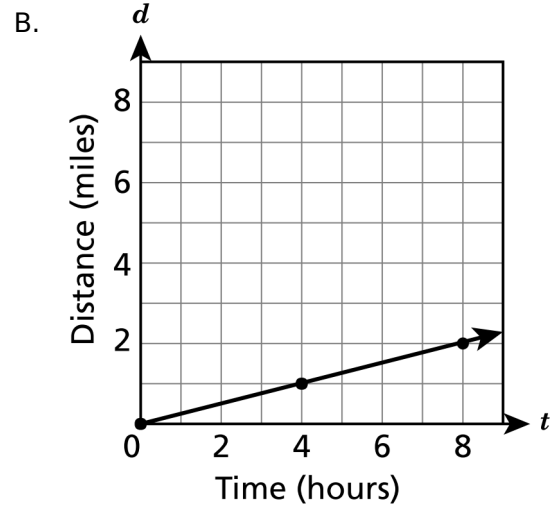
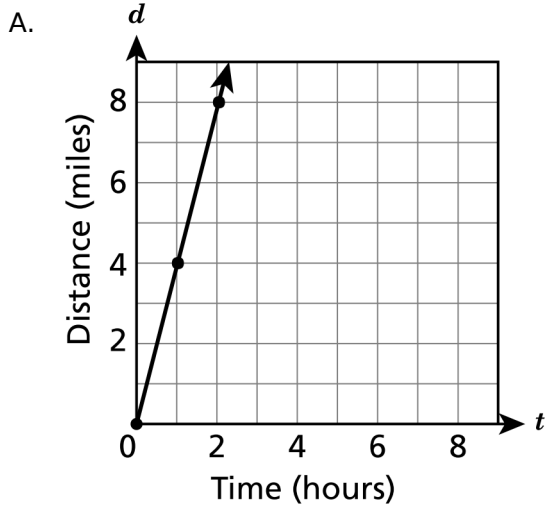
Number of Drawers	Total Volume (cubic inches)
2	5
3	7.5
4	10

Write an equation for the relationship between the number of drawers in the jewelry box,  $d$ , and the total volume of the drawers in the jewelry box,  $V$ . Use your equation to determine the number of drawers in a jewelry box with a total volume of 17.5 cubic inches.

4. Joe walks on a treadmill at a constant rate. The equation below describes the relationship between  $t$ , the time he walks in hours, and  $d$ , the distance he walks in miles.

$$d = 4t$$

Which graph represents the relationship between the amount of time Joe walks and the distance he walks?



5. The relationship between Robert's age,  $r$ , and Julia's age,  $j$ , can be represented by the equation shown below.

$$r = j + 3$$

Which table of values represents the relationship between Robert's age and Julia's age?

A. **POSSIBLE AGES**

Robert's Age, $r$ (years)	Julia's Age, $j$ (years)
9	12
15	18
21	24

B. **POSSIBLE AGES**

Robert's Age, $r$ (years)	Julia's Age, $j$ (years)
9	3
15	5
21	7

C. **POSSIBLE AGES**

Robert's Age, $r$ (years)	Julia's Age, $j$ (years)
9	6
15	12
21	18

D. **POSSIBLE AGES**

Robert's Age, $r$ (years)	Julia's Age, $j$ (years)
9	27
15	45
21	63

6. The Frenchtown Roller Rink charges a \$5 entrance fee and an hourly rate for roller skating. The total cost for roller skating depends on the number of hours a person skates. The table below represents the total cost of skating for different numbers of hours.

**ROLLER SKATING COST**

Number of Hours ( $h$ )	Total Cost in Dollars ( $c$ )
0	5
1	8
2	11
3	14
4	17

Which equation represents the relationship between the cost,  $c$ , and the number of hours,  $h$ ?

- A.  $c = 8h$                       B.  $c = 5h + 3$                       C.  $c = 2h + 7$                       D.  $c = 3h + 5$

7. Jason has a coupon for \$2.50 off any electronic book from an online book store. If the original price, in dollars, of an electronic book is  $p$  and the discounted price, in dollars, is  $d$ , which table shows the relationship between  $p$  and  $d$ ?

A. 

$p$	3.00	4.00	5.00	6.00
$d$	0.50	1.50	2.50	3.50

B. 

$p$	3.00	4.00	5.00	6.00
$d$	5.50	6.50	7.50	8.50

C. 

$p$	3.00	4.00	5.00	6.00
$d$	2.50	2.50	2.50	2.50

D. 

$p$	3.00	4.00	5.00	6.00
$d$	7.50	10.00	12.50	15.00

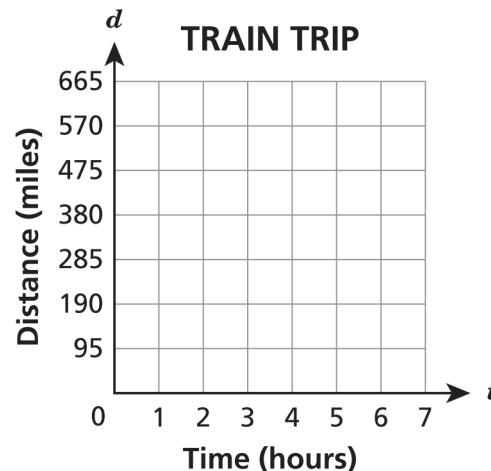
8. A train was traveling at a constant speed. The table below shows the distance, in miles, the train traveled for the first 4 hours.

**TRAIN TRIP**

Time (hours)	Distance (miles)
1	95
2	190
3	285
4	380

Write an equation to represent the relationship between  $t$ , the time, and  $d$ , the total distance traveled by the train.

On the grid below, draw a graph of the relationship between  $t$  and  $d$  for a trip that lasted from 0 to 7 hours.



If the train was traveling nonstop, how many miles would it travel in 5.5 hours?