

09 - Study Guide - Test 4

CAMPING The entrance fee to the national park is \$15. A campsite fee is \$15 per night. The total cost y for a camping trip for x nights can be represented by the equation $y = 15x + 15$.

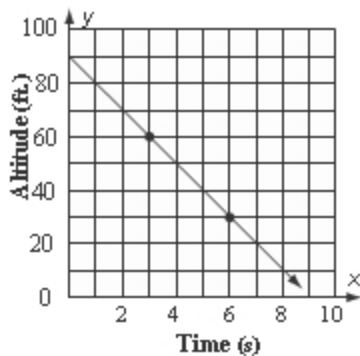
1 Graph the equation.

2 Find the total cost for 4 nights.

3 The points given in the table above lie on a line. Find the slope of the line.

x	-2	3	8	13
y	-2	-1	0	1

The graph shows the altitude of a hawk diving towards its prey.
Hawk Diving Toward Prey



4 Find the constant rate of change and interpret its meaning.

Graph each equation using the slope and y -intercept.

5 $y = -x + 3$

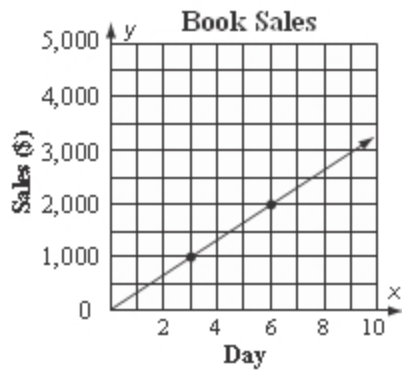
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Determine whether the linear function is a direct variation. If so, state the constant of variation.

6

Age, x	3	6	9	12
Height, y	28	40	52	64

The graph shows books sales.



7 Find the constant rate of change and interpret its meaning.

8 Determine whether a proportional linear relationship exists between the two quantities shown in the graph. Explain your reasoning.

State the slope and the y -intercept for the graph of the equation.

9 $y = 4x + 1$

10 $-x + y = 4$

11 $y + 3x = -7$

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ALGEBRA If y varies directly with x , write an equation for the direct variation. Then find the value.

12 Find x when $y = 18$, if $y = 5$ when $x = 4$.

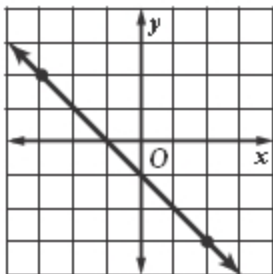
13 Find y when $x = 1$, if $y = 3$ when $x = 2$.

14 The points given in the table above lie on a line. Find the slope of the line.

x	-1	1	3	5
y	-2	0	2	4

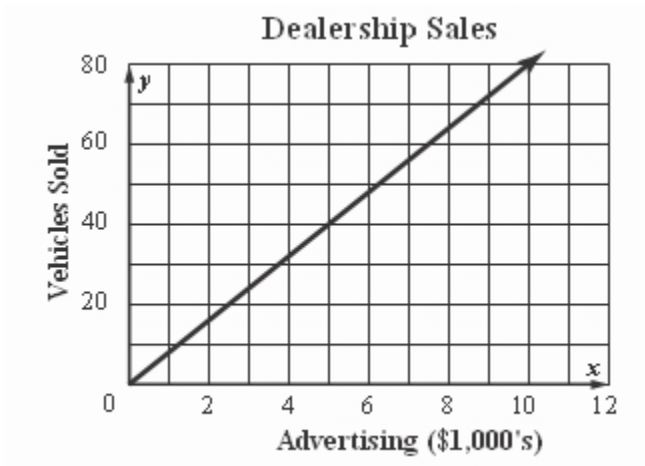
15 SNOWMOBILES Bruce rents snowmobiles to tourists. He charges \$135 for 4 hours and \$202.50 for 6 hours. What is the hourly rate Bruce charges to rent a snowmobile?

16 Find the slope of the line.



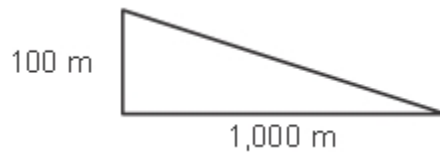
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- 17 ADVERTISING** The number of vehicles a dealership sells varies directly with the money spent on advertising.



How many vehicles does the dealership sell for each \$1,000 spent on advertising?

- 18 MOUNTAINS** Find the slope of a mountain that descends 100 meters for every horizontal distance of 1,000 meters.



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- 19** Use a graph to interpret the slope and the y -intercept.

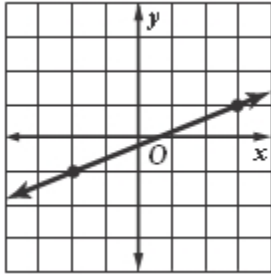
ALGEBRA If y varies directly with x , write an equation for the direct variation. Then find the value.

- 20** If $y = -5$ when $x = 2$, find y when $x = 8$.

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- 21 INSECT CONTROL** Mr. Malone used 40 pounds of insecticide to cover 1,760 square feet of lawn and 60 pounds to cover an additional 2,640 square feet. About how many pounds of insecticide would Mr. Malone need to cover his whole lawn of 4,480 square feet?

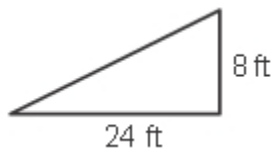
- 22** Find the slope of the line.



Find the slope of the line that passes through each pair of points.

- 23** $E(4, 0), F(5, 5)$

- 24 HOMES** Find the slope of the roof of a home that rises 8 feet for every horizontal change of 24 feet.



- 25** The points given in the table above lie on a line. Find the slope of the line.

x	-1	2	5	8
y	3	-1	-5	-9

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Graph each equation using the slope and y-intercept.

26 $1 = y - \frac{2}{3}x$

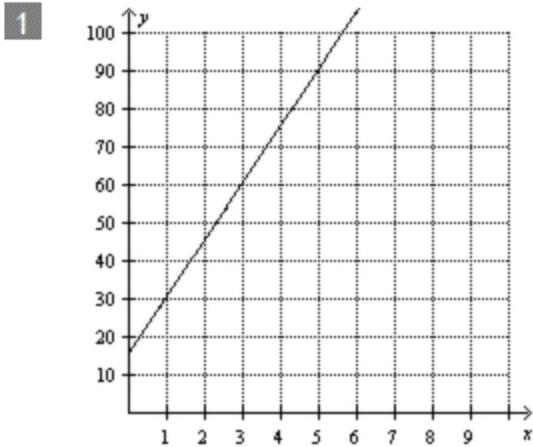
State the slope and the y-intercept for the graph of the equation.

27 $y = \frac{1}{5}x + 2$

28 $y = -3x + 5$

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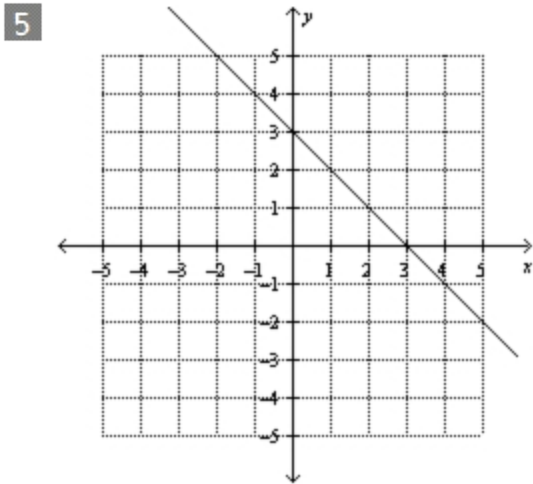
Answer Key



2 \$75

3 $\frac{1}{5}$

4 -10ft/s; a descent of 10 ft for every second diving toward the prey



6 no

7 \$333.33/day; an increase in sales of \$333.33 each day

8 Yes; the ratio of sales per day is a constant \$333.33 per day.

9 4; 1

10 1; 4

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11 $-3; -7$

12 $y = \frac{5}{4}x; x = 14\frac{2}{5}$

13 $y = \frac{3}{2}x; y = \frac{3}{2}$

14 1

15 $\$33.75$

16 -1

17 8 vehicles

18 $-\frac{1}{10}$

19 The slope represents the cost per night of camping; The y-intercept, 15, represents the one-time cost of the park entrance fee.

20 $y = -\frac{5}{2}x; y = -20$

21 102 lb

22 $\frac{2}{5}$

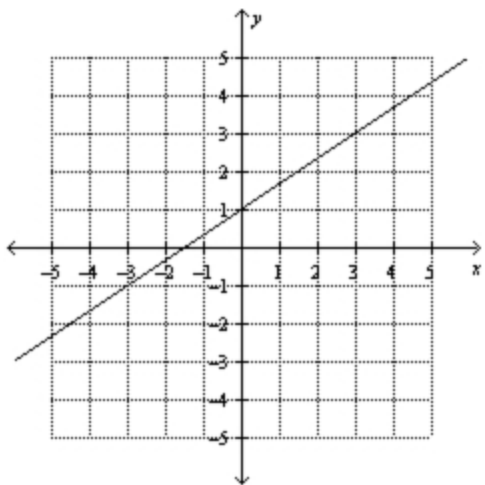
23 5

24 $\frac{1}{3}$

25 $-\frac{4}{3}$

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26



27 $\frac{1}{5}; 2$

28 $-3; 5$