

# Test, Form 3A

1. Juanita is bringing the snacks for her daughter's soccer team. Each girl on the team will eat  $\frac{1}{3}$  of an orange and drink one serving of juice or  $\frac{1}{9}$  of the amount in a bottle. How many oranges and how many juice bottles will she need for all 18 girls?

1. 6 oranges,  
2 bottles of  
juice

2. The top of Angie's ladder is resting against the side of her house 22 feet above the ground. If the base of the ladder is 5 feet from the house, what is the slope of the ladder?

2.  $\frac{22}{5}$

3. The framing gallery can frame 4 pictures per hour. Write and solve a direct variation equation to find how many pictures they can expect to frame in a  $6\frac{1}{2}$  hour shift.

3.  $y = 4x$ ;  
26 pictures

4. Store A is offering four bottles of nail polish for \$15. The costs for nail polish at Store B are shown in the table. Assume the cost for the nail polish varies directly with the number of bottles. At which store does the nail polish cost more? Explain.

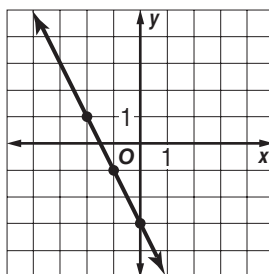
4. Store A; Store A: \$3.75 per bottle; Store B: \$3.50 per bottle  
 $\$3.75 > \$3.50$

<b>Number of Bottles</b>	2	4	6
<b>Cost (\$)</b>	7	14	21

5. State the slope and y-intercept for the graph of  $-8x + y = -12$ .

5. slope: 8,  
y-intercept:  
-12

6. Write an equation in slope-intercept form for the graph of the line shown.



6.  $y = -2x - 3$

7. An albatross is flying at a height of 300 feet and slowly descending at a rate of 73 feet per second. The equation for the height of the bird  $y$  is  $y = 300 - 73x$ , where  $x$  is the number of seconds in descent. What do the slope and y-intercept represent?

7. slope: rate of descent,  
y-intercept:  
starting height of the bird

# Test, Form 3A *(continued)*

SCORE \_\_\_\_\_

x-intercept: 4,

8. y-intercept: 10

8. State the  $x$ - and  $y$ -intercepts for the graph of  $-2y - 5x = -20$ .

9. The table shows the items and their individual prices that Lakasha brought to donate for a charity. Altogether, she spent \$420. This is represented by the function  $20x + 70y = 420$ .

	Hats	Coats
Cost (\$)	\$20	\$70
Amount Bought	$x$	$y$

a. Graph the function.

b. Interpret the  $x$ - and  $y$ -intercepts.

10. Solve the system of equations by graphing.

$$y = 3x - 2$$

$$x + y = 6$$

11. Logan asked his 20 coworkers whether they own a car or a truck. There were 6 more car owners than truck owners.

a. Write a system of equations that can be used to find out how many people own a car and how many people own a truck.

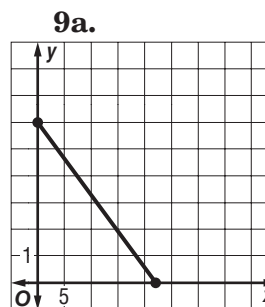
b. Solve the system.

12. Isaiah bought a total of 32 pieces of candy. He bought 3 times as many soft pieces of candy as he did hard pieces of candy.

a. Write a system of equations that represents the number of pieces of candy Isaiah bought.

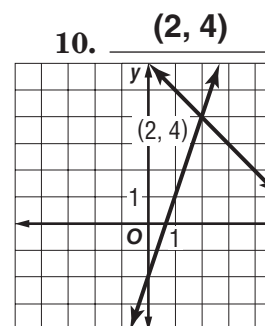
b. Solve the system.

c. Interpret the solution.



Lakasha brought 21 hats and 0 coats; Lakasha brought 0 hats

9b. and 6 coats



$$c + t = 20,$$

11a.  $c = t + 6$

13 car owners,

11b. 7 truck owners

12a.  $s + h = 32,$   
 $s = 3h$

12b.  $s = 24,$   
 $h = 8$

12c. Isaiah bought 24 soft pieces of candy and 8 hard pieces of candy.