Due, 10/23/2024, at the beginning of class. NAME:

3.1 Practice

with Calc Chat and Calc View

1. Copy and complete the table. Plot the ordered pairs and draw the graph of the linear equation.

x		
$y = 3x - 1$		

Graph the linear equation. (See Examples 1–3.)

2. $y = 9x$

3. $x = -6$

4. $y = x - 3$

5. $y = -7x - 1$

6. $y = -\frac{x}{3} + 4$

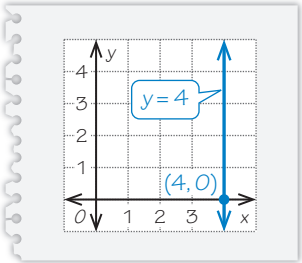
7. $y = -\frac{2}{3}$

8. $y = 0.75x - 0.5$

9. $y = 6.75$

10. $x = \frac{1}{4}$

11. **YOU BE THE TEACHER** Your friend graphs the equation $y = 4$. Is your friend correct? Explain your reasoning.



12. The equation $y = 20$ represents the cost y (in dollars) for sending x text messages in a month. Graph the linear equation. What does the graph tell you about your texting plan?

13. The equation $y = 2x + 3$ represents the cost y (in dollars) of mailing a package that weighs x pounds.

a. Use a graph to estimate how much it costs to mail the package.

b. Use the equation to find exactly how much it costs to mail the package.

Solve for y. Then graph the linear equation.

14. $y - 3x = 1$

15. $-\frac{1}{3}y + 4x = 3$

16. $x + 0.5y = 1.5$

17. **CONNECTING TO REAL LIFE** The depth y (in inches) of a lake after x years is given by the equation $y = 0.2x + 42$. After how many years is the depth of the lake 42.8 inches? (See Example 4.)

RESOURCES

18. **CONNECTING TO REAL LIFE** The amount y (in dollars) of money in your savings account after x months is given by $y = 12.5x + 100$. After how many months will you have enough saved to buy the pair of speakers?

19. The radius y (in millimeters) of a chemical spill after x days is given by $y = 6x + 50$. The leak is noticed after two weeks. Use two different methods to find the area of the leak when it is noticed.

20. **CONNECT CONCEPTS** The sum S of the interior angle measures of a polygon with n sides is $S = (n - 2) \cdot 180°$.

a. Plot four points (n, S) that satisfy the equation. Is the equation a linear equation?

b. Does the value $n = 3.5$ make sense in the context of the problem? Explain your reasoning.

21. **DIG DEEPER** One second of video on your phone uses the same amount of memory as two pictures. Your phone can store 2,500 pictures. How many pictures can your phone store in addition to a video that is 1 minute and 30 seconds long?

Review & Refresh

22. Solve the equation.

$$\frac{2}{9}h - \frac{1}{3}h + 14 = 56$$

23. The vertices of a rectangle are $A(0, 4)$, $B(3, 4)$, $C(3, 1)$, and $D(0, 1)$. Draw the figure and its image after the translation of 5 units left and 2 units down.

24. You purchase 32 apples. The apples are sold in bags of 8. Write and solve an equation to find the number of bags of apples you purchase.

25. Describe the blue figure as a transformation of the red figure.