EXERCISES

Determine the rate of change and the y-intercept from the given equations.

1. $y = 8 + 2x$

2. $y = 3x - 11$

3. $y = x - 4$

4. $y = 5 - 4x$

5. $y = -\frac{1}{4}x$

6. $y = -1$

7. $y = \frac{2}{3}x - 8$

8. $y = 6$

9. $y = 2 - \frac{4}{7}x$

Given the equation, copy and complete the input-output tables.

10. $y = 2x - 3$

x	$2x - 3$	y
0		
3		
9		
10		
13		

11. $y = x + 9$

x	$x + 9$	y
−4		
0		
2		
5		
21		

12. $y = -10 + 6x$

x	$-10 + 6x$	y
−7		
−3		
1		
4		
15		

13. $y = -3x$

x	y
−3	
−1	
6	
10	
20	

14. $y = \frac{1}{2}x + 1$

x	y
−6	
−1	
4	
6	
11	

15. $y = 5$

x	y
−4	
−3	
0	
1	
5	

16. Gracie planted a marigold in June. She measured its height each week and found that the height of the plant could be represented by the equation $y = 3 + 0.5x$ where x represents the number of weeks that have passed and y represents the height of the plant in inches.

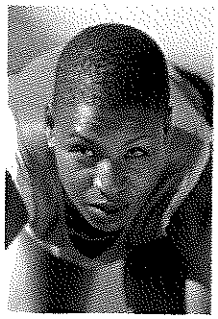
x	y
0	
4	
7	
10	
12	

- **a.** Copy and complete the table to show the height of the marigold through the summer.
- **b.** Graph the ordered pairs on a coordinate plane.
- **c.** The flower stopped growing when it reached 1 foot tall. How many weeks had passed since the flower was planted? Show all work necessary to justify your answer.

17. Debra graphed the points from the table at the right. The ordered pairs she graphed were (8, 2), (10, 3) and (12, 4). Explain her mistake to her and fix it by writing the correct ordered pairs.

x	y
2	8
3	10
4	12

18. Nguyen argued that an equation is much more useful than a table or graph. Give an example of a situation where a graph may be more useful to someone than just the equation.



19. Star is able to run 6.8 meters per second when she is sprinting. She wants to figure out how many meters (y) she can run based on the number of seconds (x) she has run. She developed an equation to help her: $y = 6.8x$.

x seconds	y meters run
10	
25	
40	
60	
100	

a. Copy and complete the table using Star's equation.

b. Four hundred meters is approximately a quarter of a mile. About how long would it take Star to run one-quarter of a mile? Is this reasonable? Why or why not?

c. Star decides she is going to run for one hour. How many seconds is this?

d. According to her equation, how many meters would she run in one hour?

e. There are about 1,600 meters in a mile. Convert your answer from **part d** into miles.

f. Is this answer reasonable? Why or why not?

20. During the summer, Jorge works at a kids camp. He was given \$100 for signing on for the summer and then is paid an additional \$35 per day of work. Copy and complete the table that shows Jorge's total earnings based on how many days he works.

x days	y earnings
6	
20	
32	
44	
50	

REVIEW

Solve each equation. Show all work necessary to justify your answer.

21. $2x + 7 = 22$

22. $\frac{x}{5} - 9 = -3$

23. $-x + 2 = 8$

24. $4(x + 7) = 12$

25. $6x + 1 = 5x + 4$

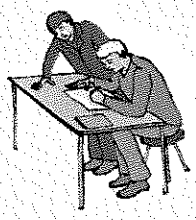
26. $2(3x - 2) = 38$

27. $2x - 5 = 5x + 28$

28. $6 + \frac{x}{3} = 2$

29. $8 = 23 - 5x$

Tic-Tac-Toe ~ Writing Equations From Tables



Creating equations from input-output tables is a difficult process. Create a worksheet that steps a student through the process of finding the rate of change, the start value and then writing the equation. Include tables that have a start value listed in the table and some that do not. Turn in a blank copy of the worksheet and an answer key.