

NAME: \_\_\_\_\_

## UNIT 1 • RELATIONSHIPS BETWEEN QUANTITIES

### Lesson 3: Creating and Graphing Equations in Two Variables

#### Practice 1.3.1: Creating and Graphing Linear Equations in Two Variables

Graph each equation on graph paper.

1.  $y = x + 2$
2.  $y = \frac{1}{3}x + 2$
3. A gear on a machine turns at a rate of 2 revolutions per second. Let  $x$  = time in seconds and  $y$  = number of revolutions. What is the equation that models the number of revolutions over time? Graph this equation.
4. The relationship between degrees Celsius and degrees Fahrenheit is linear. To convert a temperature in degrees Celsius to degrees Fahrenheit, multiply the temperature by a rate of nine fifths and add 32. What is the equation that models the conversion from degrees Celsius to degrees Fahrenheit? Graph this equation.
5. A cab company charges an initial rate of \$2.50 for a ride, plus \$0.40 for each mile driven. What is the equation that models the total fee for using this cab company? Graph this equation.
6. Matthew receives a base weekly salary of \$300 plus a commission of \$50 for each vacuum he sells. What is the equation that models his weekly earnings? Graph this equation.
7. A water company charges a monthly fee of \$6.70 plus a usage fee of \$2.60 per 1,000 gallons used. What is the equation that models the water company's total fees? Graph this equation.
8. Maddie borrowed \$1,250 from a friend to buy a new TV. Her friend doesn't charge any interest, and Maddie makes \$40 payments each month. What is the equation that models the money Maddie owes? Graph this equation.
9. A company started with 3 employees and after 8 months grew to 19. The growth was steady. What is the equation that models the growth of the company's employees? Graph this equation.
10. You and some friends are hiking the Appalachian Trail. You started out with 70 pounds of food for the group, and eat about 8 pounds each day. What is the equation that models the food you have left? Graph this equation.