Practice 2.7: Graphing Linear Equations in Two Variables A

For problems 1 and 2, graph each equation on graph paper.

1. $y = x + 2$

2. $y = \frac{1}{3}x + 2$

For problems 3–10, use the given information to write an equation, then graph the equation on graph paper.

3. A gear on a machine turns at a rate of 2 revolutions per second. Let x represent time in seconds and let y represent the number of revolutions. What is the equation that models the number of revolutions over time?

4. The relationship between degrees Celsius and degrees Fahrenheit is linear. To convert a temperature from degrees Celsius to degrees Fahrenheit, multiply the temperature by a rate of $\frac{9}{5}$ and add 32. What is the equation that models the conversion from degrees Celsius to degrees Fahrenheit?

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?

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?

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?

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?

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?

10. You and some friends are hiking the Appalachian Trail. You started out with 70 pounds of food for the group, and the group eats about 8 pounds of food each day. What is the equation that models the food you have left?