344   Lesson 83

problem set
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1. Heidi and Micah have 51 dimes and nickels. If the value of the coins is $4.10, how many coins of each type were there?

2. There were 40 dimes and quarters in the drawer. Peggy counted them and found that their total value was $4.75. How many coins of each type were there?

3. For 10 days the business averaged $650.50 in transactions per day. For the following 20 days, the average was $874.75. What was the overall average for all 30 days?

4. A paroxysm of laughter escaped a few. If the ratio of the laughers to the stolid was 2 to 17, and 7600 were in the throng, how many did not laugh?

5. Frank's cookie jar has 10 chocolate chip cookies and 5 peanut butter cookies. Frank randomly picks and eats one cookie, then randomly picks and eats another cookie. What is the probability that he ate a chocolate chip cookie the first time and a peanut butter cookie the second time?

6. The spinner shown is spun 4 times. What is the probability that the spinner stops on 2, 3, and 2, in that order?

7. If $f(x) = x^3 + 2$, find $f(3)$.

8. If $g(x) = x^2 - 7x$, find $g(a + b)$.

9. Find the domain of the function $f(x) = \sqrt{9 - x}$.

10. Find the domain and range of $f(x) = -5$.

11. Find the domain and range of the function g whose graph is shown.

12. Find the equations of lines (a) and (b).
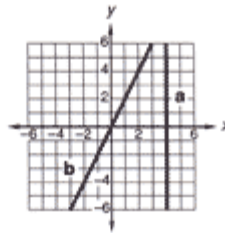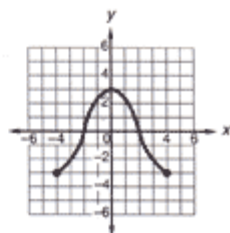
13. Solve by graphing the following set of equations on a rectangular coordinate system. Check your answers by substituting them back into the original equations.

$$\begin{cases} y = x + 2 \\ y = -x \end{cases}$$

14. Consider the equations $y = 2x + 1$ and $y = -2x + 1$. Is this pair of equations consistent, inconsistent, or dependent? Check your answer by graphing the equations on a rectangular coordinate system.

Simplify:

15. $\dfrac{(0.0016 \times 10^{-7})(3000 \times 10^5)}{1,200,000}$

16. $\dfrac{(0.003 \times 10^{-5})(700 \times 10^{14})}{21,000,000}$

17. Given: $R_P T_P = R_M T_M$, $R_P = 45$, $R_M = 15$, $T_P = T_M - 8$. Find T_P and T_M.

18. Given: $R_G T_G + 10 = R_P T_P$, $T_G = 4$, $T_P = 2$, $R_P = R_G + 45$. Find R_P and R_G.