

Lesson 22 ~ Expressions and Equations

Name _____ Period _____ Date _____

Write an algebraic expression for each phrase.

1. the product of x and seven
2. the sum of 8 and p
3. two more than the product of y and four
4. the quotient of k and ten

Evaluate each expression.

5. $y + 6$ when $y = 13$
6. $-3x + 2$ when $x = -5$
7. $4m^2$ when $m = 3$
8. $24 - 5d$ when $d = 6$
9. $7x + \frac{2}{3}$ when $x = \frac{1}{3}$
10. $2.1w + 4.5$ when $w = -1$
11. $(a + b)^2$ when $a = -4$ and $b = 9$
12. $\frac{3y}{2} + 6x$ when $x = -2$ and $y = 10$
13. The fire department is having a BBQ fundraiser. The hot dogs costs \$1.50 each and cans of soda cost \$0.75 each. The department uses the algebraic expression $1.50x + 0.75y$ to calculate customers' total expenses.
 - a. What does the x variable represent?
 - b. What does the y variable represent?
 - c. A family buys 7 hot dogs and 4 sodas. What are their total expenses?

Determine if the number given is the solution to the equation.

14. $7 + 3x = 19$ *Is 4 the solution?*
15. $\frac{p}{4} + 10 = 12$ *Is 8 the solution?*
16. $-2y + 5 = -1$ *Is 3 the solution?*
17. $1.3m - 5.6 = -3$ *Is -2 the solution?*