

Name: _____

Evaluate Expressions

Evaluate the following expressions for $x = 6$.

1. $7x$

2. $\frac{x}{3}$

3. $29 - x$

4. $\frac{36}{x}$

5. $9x$

6. $x + 41$

7. $3x + x$

8. $2x - 2$

Evaluate the following expressions for $b = 2$ and $c = 7$.

9. $5 + b + c$

10. $16 + b - c$

11. $c - b + 1$

12. $9b - c$

13. $7c - b$

14. $4c + b$

15. $12b + c$

16. $22 + b - c$

Evaluate the following expressions for $y = 8$ and $d = 4$.

17. $\frac{6y}{d}$

18. $\frac{20}{d} + y$

19. $\frac{yd}{2}$

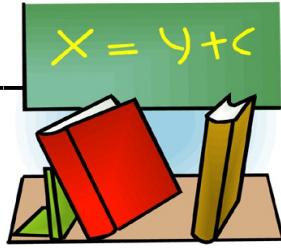
20. $\frac{y}{d} + 6$

Name: _____

Algebraic Expressions

Evaluate each expression.

$$a = 3, \quad b = 5, \quad c = 6$$



1. $a + 5$ _____

2. $15 - c$ _____

3. $4b$ _____

4. $\frac{18}{c}$ _____

5. $20 - a$ _____

6. $11b$ _____

7. $\frac{45}{b}$ _____

8. $a - 2$ _____

9. $a + b + c$ _____

10. $\frac{c}{a}$ _____

$$p = 12, \quad q = 2, \quad r = 30$$

11. $q50$ _____

12. $\frac{r}{q}$ _____

13. $p + 4 + 6$ _____

14. $p - 7$ _____

15. $10r$ _____

16. $\frac{r}{10}$ _____

17. $\frac{p}{4}$ _____

18. $r - p$ _____

19. $r - q$ _____

20. $\frac{48}{p}$ _____

Now try this:

Write five of your own algebraic expressions on the back of this paper.
Have a friend solve them.

Name: _____

Evaluate Expressions

Evaluate the following expressions for $y = -3$.

$$1. \frac{2(y+6)}{3}$$

$$2. -2(y^2)$$

$$3. y(11-2)$$

$$4. \frac{3(y+9)}{6}$$

$$5. \frac{4y+6y}{-3}$$

$$6. \frac{5(y-6)}{9}$$

$$7. \frac{y^3}{3}$$

$$8. \frac{18}{y} + 7y$$

Evaluate the following expressions for $x = -2$ and $c = 8$.

$$9. -2(x+c)$$

$$10. \frac{9x+8}{2}$$

$$11. \frac{-3x-8}{2}$$

$$12. \frac{-c(x^2+4)}{4}$$

$$13. \frac{c^2}{x} + 14$$

$$14. \frac{3(c+x^2)}{12}$$

$$15. \frac{42}{x+c}$$

$$16. \frac{15x-c}{-19}$$

Evaluate the following expressions for $d = -4$ and $e = -6$.

$$17. \frac{de}{-6}$$

$$18. \frac{e^2-d^2}{4}$$

$$19. \frac{d(e+3)}{2}$$

$$20. \frac{e(d^2-9)}{6}$$

Name: _____

Evaluate Expressions

Evaluate the following expressions for $h = 3$.

1. $4(h + 2)$

2. $\frac{18}{h} + h$

3. $h(5 + 2)$

4. $9h - 11$

5. $\frac{8h}{12}$

6. $\frac{h^2 + 5}{2}$

7. $4(2h - 3)$

8. $5h(6 - 4)$

Evaluate the following expressions for $x = 5$ and $b = 9$.

9. $x(b - 1)$

10. $\frac{5b}{x}$

11. $\frac{b + x^2}{2}$

12. $b(2 + x)$

13. $7(b - x)$

14. $\frac{10x + 4}{b}$

15. $\frac{b}{3} + x$

16. $\frac{5x + b}{2}$

Evaluate the following expressions for $m = 16$ and $g = 4$.

17. $\frac{m}{g} + 9$

18. $g(m - 9) + 5$

19. $\frac{m}{2} + 3g$

20. $\frac{6g - m}{2}$

Name: _____

Writing Basic Algebraic Expressions

operation	example written numerically	example with a variable
addition (sum)	$3 + 2$	$6 + x$
subtraction (difference)	$18 - 6$	$14 - a$
multiplication (product)	4×5	$9c$
division (quotient)	$16 \div 4$	$\frac{18}{z}$



Rewrite each question as an algebraic expression.

1. What is the sum of a and 8? _____
2. What is the product of y and 10? _____
3. What do you get when you subtract 9 from b ? _____
4. What is c divided by 22? _____
5. What is 12 decreased by p ? _____

Rewrite each phrase as an algebraic expression.

6. c multiplied by 5 _____
7. 10 larger than y _____
8. 9 less than e _____
9. triple r _____
10. p divided by 4 _____
11. quadruple f _____

Write your answer to the word problems in the form of an algebraic expression.

12. There are x students trying out for a solo in a chorus concert. Only 6 will be chosen. How many students will not be chosen? _____
13. There are y students who volunteered to pull weeds in the school garden. The principal said she wishes she had three times as many volunteers. How many volunteers would the principal like to have? _____

Name: _____

Writing Expressions

One-Step

Write an expression using a variable to represent each situation.

example: You have 3 times as much money as Maria.

3m

1. A player scored 5 more points than Rodger.

2. You had \$20 but spent d dollars on ice cream.

3. Your teacher split c pieces of candy among 23 students.

4. Your brother is twice as tall as your sister.

5. Your friend ran 6 more miles than Anna.

6. Alice had 12 needles in her sewing kit, but then lost n needles.

7. Milo earns \$13 per hour at his new job.

8. There are w windows on each of 8 buildings.

9. The librarian has 682 books and bought b more.

10. Mrs. Murphy had 83 rulers to divide among her students.

Write your own sentence to represent the given expression.

11. $7x$

12. $32 - a$

Name: _____

Writing Expressions

One and Two-Step with Parentheses

Write an expression to match each phrase.

1. four times a number, decreased by six _____

2. the product of two and a number, divided by five _____

3. seven less than a number _____

4. the quotient of four and e _____

5. six times the sum of nine and a number _____

6. the difference of thirteen and six, multiplied by a number _____

7. the sum of ten times a number and 12 _____

8. the quotient of 20 and x , increased by seven _____

9. the difference of 16 and a number, divided by 2 _____

10. 8 fewer than the sum of 14 and a number _____

Write a phrase in words to match each expression.

11. $3n - 6$ _____

12. $\frac{5+3}{n}$ _____

Name: _____

Writing Expressions

Two-Step

Write an expression to represent each situation.

1. You are going to an amusement park. It costs \$15 to get in and \$2 for each ride, r . _____

2. Miles makes \$14 per hour but has to pay \$55 for his cell phone bill. _____

3. Olivia bought 8 bags of fruit at the farmer's market. She put a apples and b bananas in each bag. _____

4. Ms. Baynes has \$70 and spends \$6 on each of y books. _____

5. Anna and her brother were collecting seashells. She collected s shells and her brother collected twice as much. _____

6. Carlos and Brandon had p pencils and e erasers. They combined these and split them equally. _____

7. Mason's mom bought g games online. The games cost \$12 each plus a \$7 shipping fee. _____

8. Haley and Mia's dad said if they combine the money they've saved, he would double it. _____

9. Jacob makes \$10 for every lawn he mows, m . He owes his brother \$20. _____

10. Rosa is making a cherry pie. She divides c cherries into 4 pies and eats the remaining 6 cherries. _____

Name: _____

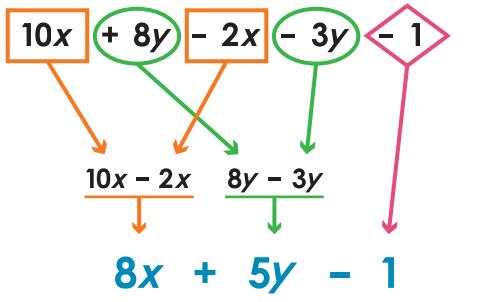
Equivalent Expressions

Combining Like Terms

Terms are separated by + or - signs in an expression.

Like terms may be combined according to the sign that separates them.

example:



*Include symbol when identifying terms

Draw shapes to identify like terms. Combine like terms.

(a) $7a + 3b - 2a - 5 + b$

(b) $6x - 2x + 4 + 3y - y$

(c) $5a + 3 - 6b - 1 - 3a$

(d) $8c + 3d - 2 + d - 4c$

(e) $12x - y + 5 - 9x + 1$

(f) $a + 7b - 3b + 2a - 1$