

# Algebra: Variables and Expressions

## Guided Practice

Evaluate each expression if  $m = 4$ ,  $z = 9$ , and  $r = \frac{1}{6}$ . (Examples 1–6)

1.  $3 + m$  \_\_\_\_\_

2.  $z - m$  \_\_\_\_\_

3.  $12r$  \_\_\_\_\_

Show your work.

4.  $4m - 2$  \_\_\_\_\_

5.  $60r - 4$  \_\_\_\_\_

6.  $3r^2$  \_\_\_\_\_



7. The amount of money that remains from a 20-dollar bill after Malina buys 4 party favors for  $p$  dollars each is  $20 - 4p$ . Find the amount remaining if each favor cost \$3. (Example 7) \_\_\_\_\_

## Independent Practice

Evaluate each expression if  $m = 2$ ,  $n = 16$ , and  $p = \frac{1}{3}$ . (Examples 1–6)

1.  $m + 10$  \_\_\_\_\_

2.  $n \div 4$  \_\_\_\_\_

3.  $m + n$  \_\_\_\_\_

4.  $6m - 1$  \_\_\_\_\_

Show your work.

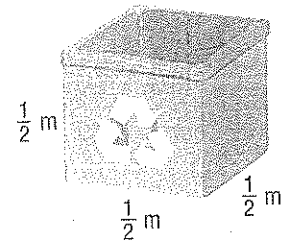
5.  $3p$  \_\_\_\_\_

6.  $12p$  \_\_\_\_\_

7.  $12m - 4$  \_\_\_\_\_

8.  $9p^2$  \_\_\_\_\_

9. A paper recycling bin has the dimensions shown. Use the expression  $s^3$ , where  $s$  represents the length of a side, to find the volume of the bin. Write your answer in cubic meters. (Example 7)



- Financial Literacy** Julian earns \$13.50 per hour. His company deducts 23% of his pay each week for taxes. Julian uses the expression  $0.77(13.50h)$  to compute his earnings after taxes for the hours  $h$  he works. What will be his earnings after taxes, if he works 40 hours?

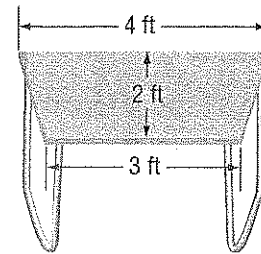
Evaluate each expression if  $x = 3$ ,  $y = 12$ , and  $z = 8$ .

12.  $4z + 8 - 6$

13.  $7z \div 4 + 5x$

14.  $y^2 \div (3z)$

15. **CCSS Be Precise** To find the area of a trapezoid, use the expression  $\frac{1}{2}h(b_1 + b_2)$ , where  $h$  represents the height,  $b_1$  represents the length of the top base, and  $b_2$  represents the length of the bottom base. What is the area of the trapezoidal table?



### Standardized Test Practice

18. Evaluate the expression  $36y + 9$  if  $y = \frac{1}{6}$ .

(A) 14

(C) 51

(B) 15

(D) 225

27. **Financial Literacy** Colton earns \$7 per hour plus \$1.50 for each pizza delivery. The expression  $7h + 1.50d$  can be used to find the total earnings after  $h$  hours and  $d$  deliveries have been made. How much money will Colton earn after working 15 hours and making 8 deliveries?

28. **CCSS Be Precise** As a member of a music club, you can order CDs for \$14.99 each. The music club also charges \$4.99 for each shipment. The expression  $14.99n + 4.99$  represents the cost of  $n$  CDs. Find the total cost for ordering 3 CDs.