EXAMPLE Evaluate Expressions

1 Evaluate $x - y + 6$ if $x = 27$ and $y = 12$.

$x - y + 6 = 27 - 12 + 6$ Replace x with 27 and y with 12.

$= 15 + 6$ Subtract 12 from 27.

$= 21$ Add 15 and 6.

Answer: 21

CHECK Your Progress

1 Evaluate $12 + a - b$ if $a = 7$ and $b = 11$.

A. 30

B. 16

C. 8

D. 20

EXAMPLE Evaluate Expressions

2 **A.** Evaluate $6y - 4x$ if $x = 3$, $y = 4$, and $z = 7$.

$6y - 4x = 6(4) - 4(3)$ Replace y with 4 and x with 3.

$= 24 - 12$ Multiply.

$= 12$ Subtract.

Answer: 12

EXAMPLE Evaluate Expressions

2 B. Evaluate $\dfrac{(z - x)}{y}$ if $x = 3$, $y = 4$, and $z = 7$.

$$\dfrac{(7 - 3)}{4}$$

$$= 4 \div 4$$

$$= 1$$

Answer: 1

2 C. Evaluate $5z + (x + 4y) - 15$ if $x = 3$, $y = 4$, and $z = 7$

$$5(7) + (3 + 4 \cdot 4) - 15$$ Replace z with 7, x with 3, and y with 4.

$$= 5(7) + (3 + 16) - 15$$ Multiply 4 and 4.

$$= 5(7) + 19 - 15$$ Add 3 and 16.

$$= 35 + 19 - 15$$ Multiply 5 and 7.

$$= 54 - 15$$ Add 35 and 19.

$$= 39$$ Subtract 15 from 54.

Answer: 39

EXAMPLE Evaluate Expressions

CHECK Your Progress

2 A. Evaluate $5p - 3m$ if $m = 9$, $n = 4$, and $p = 6$.

A. 3

B. 13

C. 22

D. 28

CHECK Your Progress

2 B. Evaluate $\dfrac{mn}{p}$ if $m = 9$, $n = 4$, and $p = 6$.

A. 4

B. $2\dfrac{1}{6}$

C. $5\dfrac{1}{3}$

D. 6

CHECK Your Progress

2 C. Evaluate $p + (8n - 3m)$ if $m = 9$, $n = 4$, and $p = 6$.
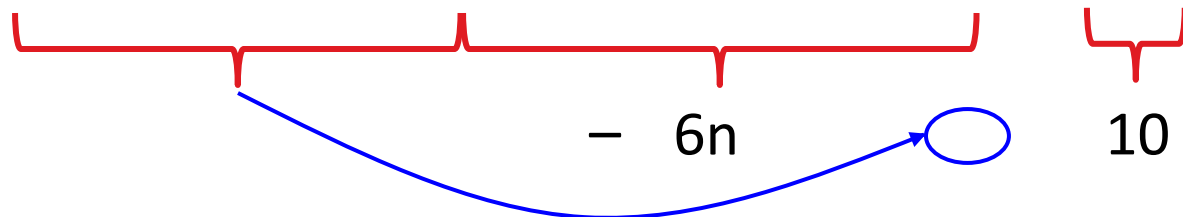
A. 23

B. 15

C. 14

D. 11

EXAMPLE Translate Verbal Phrases into Expressions

3 **A.** Translate the phrase *35 more than the number of tickets sold* into an algebraic expression.

$$35 + t$$

B. Translate the phrase *the difference of six times a number and ten* into an algebraic expression.

the difference of six times a number and ten

$$- \quad 6n \qquad 10$$

Answer: The expression is $6n - 10$.

CHECK Your Progress

3 **A.** Translate the phrase *eight less than the number of cookies baked* into an algebraic expression.

A. $c - 8$

B. $8 - c$

C. $-8 - c$

D. $-c - 8$

CHECK Your Progress

3 **B.** Translate the phrase *the sum of twelve and five times a number* into an algebraic expression.

A. $12(5 + n)$

B. $12 + 5 + n$

C. $12 + 5n$

D. $17n$

✓ CHECK Your Progress

4 **A. RETAIL** The Read It Bookstore is advertising a sale. The price of hardback books is $9.50 and the price of paperback books is $4.50. Write an expression that can be used to find the total amount of money spent at the bookstore.

A. $9.5 + 4.5$

B. $(9.5 + 4.5)hp$

C. $h + p$

D. $9.5h + 4.5p$

CHECK Your Progress

4 B. RETAIL The Read It Bookstore is advertising a sale. The price of hardback books is $9.50 and the price of paperback books is $4.50. Suppose Emily buys 5 hardback books and 4 paperback books. Find the total amount she spent at the book sale.

$$9.5h + 4.5p$$

A. $85.50

B. $65.50

C. $60.50

D. $126.00

Assignment