

Lesson 1-2

Example 1 Evaluate Expressions

a. $11 - 8 \div 2$

$$\begin{aligned} 11 - 8 \div 2 &= 11 - 4 \\ &= 7 \end{aligned}$$

Divide 8 by 2.
Subtract 4 from 11.

b. $5 \times 7 + 8$

$$\begin{aligned} 5 \times 7 + 8 &= 35 + 8 \\ &= 43 \end{aligned}$$

Multiply 5 and 7.
Add 35 and 8.

c. $72 \div 3 - 8(9 - 7)$

$$\begin{aligned} 72 \div 3 - 8(9 - 7) &= 72 \div 3 - 8(2) \\ &= 24 - 8(2) \\ &= 24 - 16 \\ &= 8 \end{aligned}$$

Evaluate $(9 - 7)$ first.
Divide 72 by 3.
 $8(2)$ means 8×2 .
Subtract 16 from 24.

d. $6[12(3) - (21 - 15)]$

$$\begin{aligned} 6[12(3) - (21 - 15)] &= 6[12(3) - 6] \\ &= 6[36 - 6] \\ &= 6[30] \\ &= 180 \end{aligned}$$

Evaluate $(21 - 15)$ first.
Multiply 12 and 3.
Subtract $36 - 6$.
Multiply 6 and 30.

e. $\frac{87 - 15}{13 + 5}$

$$\begin{aligned} \frac{87 - 15}{13 + 5} &= (87 - 15) \div (13 + 5) \\ &= 72 \div 18 \\ &= 4 \end{aligned}$$

Rewrite as a division expression.
Evaluate $87 - 15$ and $13 + 5$.
Divide 72 by 18.

Example 2 Translate Phrases into Expressions

Write a numerical expression for each verbal phrase.

a. the sum of 11 and 6

Phrase the sum of 11 and 6

Key Word sum

Expression $11 + 6$

b. the quotient of 42 and 7

Phrase the quotient of 42 and 7

Key Word quotient

Expression $42 \div 7$

Example 3 Use Expressions to Solve Problems

RETAIL A clothing store is advertising a sale on jeans. The advertised price is \$29 for the first pair and \$15 for each additional pair. Write and then evaluate an expression to find the total cost for a purchase of 4 pairs of jeans.

Words \$29 for the first pair and \$15 for each additional pair

Expression $29 + 15 \times 3$

$$\begin{aligned} 29 + 15 \times 3 &= 29 + 45 \\ &= 74 \end{aligned}$$

Multiply 15 and 3.
Add 29 and 45.

The cost for 4 pairs of jeans is \$74.