

1-1 Study Guide and Intervention**Words and Expressions**

Translate Verbal Phrases into Expressions A **numerical expression** contains a combination of numbers and operations such as addition, subtraction, multiplication, and division. Verbal phrases can be translated into numerical expressions by replacing words with operations and numbers.

+	-	×	÷
plus	minus	times	divide
the sum of	the difference of	the product of	the quotient of
increased by	decreased by	of	divided by
more than	less than		among

Example

Write a numerical expression for each verbal phrase.

- a. the product of seventeen and three

Phrase the **product** of seventeen and three

Expression 17×3

- b. the total number of pencils given to each student if 18 pencils are shared among 6 students

Phrase 18 shared **among** 6

Expression $18 \div 6$

Exercises

Write a numerical expression for each verbal phrase.

- eleven less than twenty
- twenty-five increased by six
- sixty-four divided by eight
- the product of seven and twelve
- the quotient of forty and eight
- sixteen more than fifty-four
- six groups of twelve
- eighty-one decreased by nine
- the sum of thirteen and eighteen
- three times seventeen

1-1 Study Guide and Intervention *(continued)***Words and Expressions**

Order of Operations Evaluate, or find the numerical value of, expressions with more than one operation by following the **order of operations**.

Step 1 Evaluate the expressions inside grouping symbols.

Step 2 Multiply and/or divide from left to right.

Step 3 Add and/or subtract from left to right.

Example Evaluate each expression.

a. $6 \cdot 5 - 10 \div 2$

$$\begin{aligned} 6 \cdot 5 - 10 \div 2 &= 30 - 10 \div 2 \\ &= 30 - 5 \\ &= 25 \end{aligned}$$

Multiply 6 and 5.

Divide 10 by 2.

Subtract 5 from 30.

b. $4(3 + 6) + 2 \cdot 11$

$$\begin{aligned} 4(3 + 6) + 2 \cdot 11 &= 4(9) + 2 \cdot 11 \\ &= 36 + 22 \\ &= 58 \end{aligned}$$

Evaluate $(3 + 6)$.

Multiply 4 and 9, and 2 and 11.

Add 36 and 22.

c. $3[(7 + 5) \div 4 - 1]$

$$\begin{aligned} 3[(7 + 5) \div 4 - 1] &= 3[12 \div 4 - 1] \\ &= 3(3 - 1) \\ &= 3(2) \\ &= 6 \end{aligned}$$

Evaluate $(7 + 5)$ first.

Divide 12 by 4.

Subtract 1 from 3.

Multiply 3 and 2.

Exercises

Evaluate each expression.

1. $6 + 3 \cdot 9$

2. $7 + 7 \cdot 3$

3. $14 - 6 + 8$

4. $26 - 4 + 9$

5. $10 \div 5 \cdot 3$

6. $22 \div 11 \cdot 6$

7. $2(6 + 2) - 4 \cdot 3$

8. $5(6 + 1) - 3 \cdot 3$

9. $2[(13 - 4) + 2(2)]$

10. $4[(10 - 6) + 6(2)]$

11. $\frac{(67 + 13)}{(34 - 29)}$

12. $6(4 - 2) + 8$

13. $3[(2 + 7) \div 9] - 3$

14. $(8 \cdot 7) \div 14 - 1$

15. $\frac{4(18)}{2(9)}$

16. $(9 \cdot 8) - (100 \div 5)$