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.

<table>
<thead>
<tr>
<th>phrase</th>
<th>expression</th>
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<tbody>
<tr>
<td>plus</td>
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<td>minus</td>
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<td>times</td>
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<td>divide</td>
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<td>the sum of</td>
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<td>the difference</td>
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<td>the product</td>
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<td>the quotient</td>
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<td>decreased by</td>
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<td>more than</td>
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<td>less than</td>
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<td>among</td>
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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 \times 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.

1. eleven less than twenty
2. twenty-five increased by six
3. sixty-four divided by eight
4. the product of seven and twelve
5. the quotient of forty and eight
6. sixteen more than fifty-four
7. six groups of twelve
8. eighty-one decreased by nine
9. the sum of thirteen and eighteen
10. 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.  $6 \cdot 5 - 10 \div 2$

   
   $6 \cdot 5 - 10 \div 2 = 30 - 10 \div 2$

   Multiply 6 and 5.

   $= 30 - 5$

   Divide 10 by 2.

   $= 25$

   Subtract 5 from 30.

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

   
   $4(3 + 6) + 2 \cdot 11 = 4(9) + 2 \cdot 11$

   Evaluate $(3 + 6)$.

   $= 36 + 22$

   Multiply 4 and 9, and 2 and 11.

   $= 58$

   Add 36 and 22.

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

   
   $3[(7 + 5) \div 4 - 1] = 3[12 \div 4 - 1]$

   Evaluate $(7 + 5)$ first.

   $= 3(3 - 1)$

   Divide 12 by 4.

   $= 3(2)$

   Subtract 1 from 3.

   $= 6$

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