

# EXPRESSIONS

## NUMERICAL and VERBAL

# ANSWERS

IN MATHEMATICS WE CAN WRITE A SENTENCE OR VERBAL PHRASE AS AN **EXPRESSION**. EXPRESSIONS ARE VERY IMPORTANT IN ALGEBRA AND HELP US CONNECT WORDS TO MATH.

Take a look at the sentence below.

Gerry is going to buy three shirts that cost \$9.00 each.

WE KNOW HOW MANY SHIRTS HE IS GOING TO BUY AND HOW MUCH THEY COST. THESE AMOUNTS ARE CALLED **CONSTANTS**, BECAUSE THEY CONSTANTLY STAY THE SAME. WE CAN WRITE THIS SENTENCE AS A VERBAL EXPRESSION AND A NUMERICAL EXPRESSION.

**Verbal expression** → 3 times 9

**Numerical expression** →  $3 \times 9$

BEING ABLE TO WRITE EXPRESSIONS ALLOWS US TO SEE HOW TO SOLVE A PROBLEM. THESE EXPRESSIONS TELL US HOW MUCH HE WILL HAVE TO PAY FOR ALL THREE SHIRTS.

A **verbal expression** contains words to explain mathematics.

A **numerical expression** contains a combination of constants (numbers) and operations such as addition, subtraction, multiplication, and division.

The table below shows some common words and phrases and their related operations.

+	-	×	÷
plus	minus	times	divide
the sum of	the difference of	multiplied by	the quotient of
increased by	decreased by	the product of	divided by
added to	subtracted from	groups of	among
more than	less than	of	the ratio of

Write a numerical expression for each verbal expression.

**MORE THAN** AND **LESS THAN** ARE WRITTEN BACKWARDS.

a. 5 less than 13

$13 - 5$

4. 4 more than 8

$8 + 4$

8. 10 times 9

$10 \times 9$

1. the product of 7 and 3

$7 \times 3$

5. the ratio of 12 and 6

$\frac{12}{6}$  or  $12 \div 6$

9.  $\frac{2}{3}$  of 8

$\frac{2}{3} \times 8$

2. 14 divided by 5

$14 \div 5$  or  $\frac{14}{5}$

6. the sum of 7 and 18

$7 + 18$

10. the quotient of 3 and 11

$3 \div 11$  or  $\frac{3}{11}$

3. 11 decreased by 9

$11 - 9$

7. 6 subtracted from 2

$2 - 6$

EXPRESSIONS **DO NOT** CONTAIN EQUAL SIGNS, BUT TELL WHICH OPERATIONS TO PERFORM.

Write a verbal expression for each numerical expression.

b.  $3 \times 7$  the product of 3 and 7

15.  $20 - 6$  6 less than 20

ANSWERS MAY VARY.

11.  $\frac{9}{2}$  the quotient of 9 and 2

16.  $10 + 5$  5 more than 10

12.  $14 + 2$  14 plus 2

17.  $2 \times 5$  2 groups of 5

13.  $8 \times 4$  8 times 4

18.  $\frac{4}{7}$  4 divided by 7

14.  $15 \div 3$  15 divided by 3

19.  $8 - 12$  8 minus 12