

Lesson 2-3

Example 1

Write each phrase as a variable expression.

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|-------------------------------------|---|
| a. a number increased by 25 | b. negative four times a number |
| c. the difference of 9 and a number | d. the quotient of eight and three times a number |

Solution

Let n = a number.

- | | |
|-------------|----------------|
| a. $n + 25$ | b. $-4n$ |
| c. $9 - n$ | d. $8 \div 3n$ |

Example 2

Translate each variable expression into a word phrase.

- | | |
|------------|-------------------|
| a. $3 + p$ | b. $\frac{n}{10}$ |
| c. $-5w$ | d. $3v - 6$ |

Solution

- the sum of three and a number
- the quotient of a number and 10
- negative five times a number
- three times a number decreased by six

Example 3

ENTERTAINMENT A theme park charges admission of \$15 per adult and \$8 per child under the age of 12 years. Write a variable expression to show how much revenue the park generates in ticket sales on a given day.

Solution

Let x = the number of adult tickets sold. Let y = the number of child tickets sold.

Think of a word phrase: *\$15 times the number of adult tickets sold plus \$8 times the number of child tickets sold.*

Write the variable expression. $15x + 8y$

The revenue earned by the theme park for ticket sales can be represented by the expression $15x + 8y$.