Chapter 7
Review

Key Words

$+$

$-$

$\times$

$\div$

Translating variable expressions

Write the word sentence as an equation.

1) 27 is 3 times a number *y*
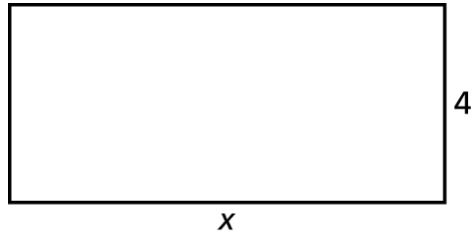
2) The difference of a number *x* and 4 is 3

3) Twice a number *p* is 17
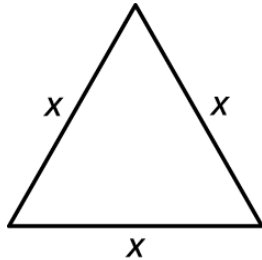
4) Half a number *q* is 14.

Translating variable expressions

Write an equation that can be used to find the value of *x*.

5) Perimeter of rectangle: 32 cm

4
x

6) Perimeter of triangle: 20 in.

x   *x*

x

Tell whether the given value is a solution of the equation.

7) $y - 9 = 14; \; y = 22$

8) $\dfrac{n}{3} = 13; \; n = 39$

Solve.

9) $p - 24 = 13$

10) $\dfrac{2}{5} + m = \dfrac{5}{6}$

Solve.

11)   In the heavyweight class of professional wrestling, the junior weight limit is 190 pounds. This is 15 pounds heavier than the light heavyweight limit. Write and solve an equation to find the weight limit of the light heavyweight class.

Important Vocabulary!

Independent – Variable

The variable representing a quantity that can change _____ .

Dependent – Variable

The variable in which the value _____ on the independent value.

Equations in Two Variables

The following is an equation in two variables.

Complete the table on the right,
if x = -4, -2, 0, 2, 4

$$y = x - 5$$

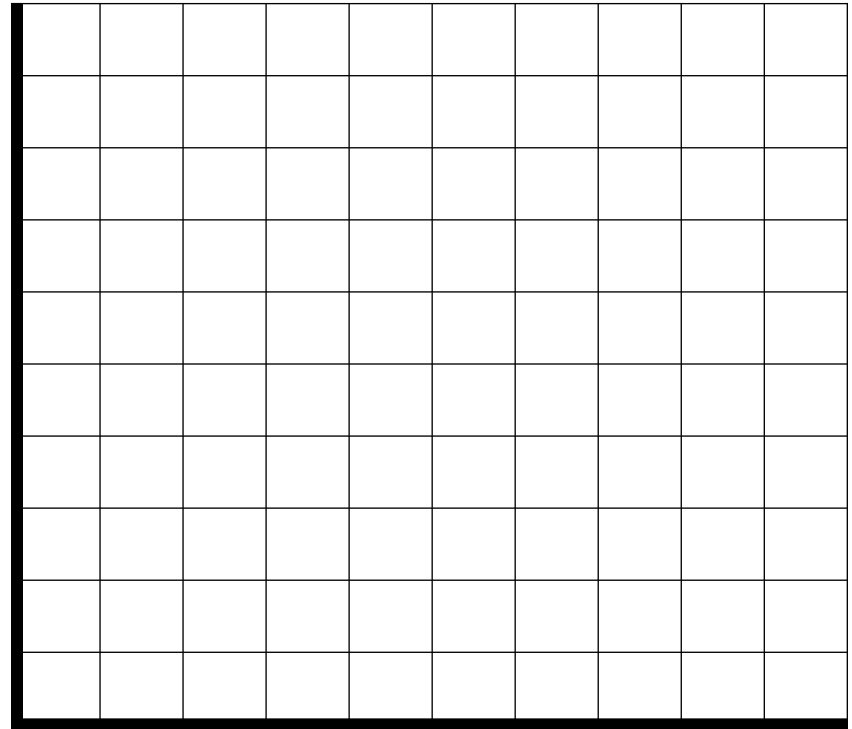| x	y

Solution

Application

For babysitting, Nicole charges a flat fee of $4, plus $5 per hour. Write an equation for the cost, y, after x hours of babysitting.

a) Write an equation that represents this.

b) Make a T-chart of values.

c) Graph the solutions.

Solve.

12) $5 \bullet x = 12$

13) $4.2 = \dfrac{c}{8}$

Solve.

14)   You earn $5 for every friendship bracelet you sell. Write and solve an equation to find the number of bracelets you have to sell to earn $85.

Tell whether the given value is a solution of the equation.

15) $y = x + 4; (1, 3)$

16) $y = 2x + 3; (3, 9)$

**Identify the independent and dependent variables.**

17) The equation $p = 8.65h$ gives the amount p (in dollars) of pay a clerk receives for working h hours.

18) The equation $P = 4s$ gives the perimeter P (in inches) of a square mouse pad with a side length of s inches.

19) The equation $c = 42t + 42$ gives the total cost c (in dollars) of a grocery bill with a sales tax of t percent (in decimal form).

20) Avocados cost $3 per pound. Write and graph an equation in two variables that represents the cost of buying avocados.
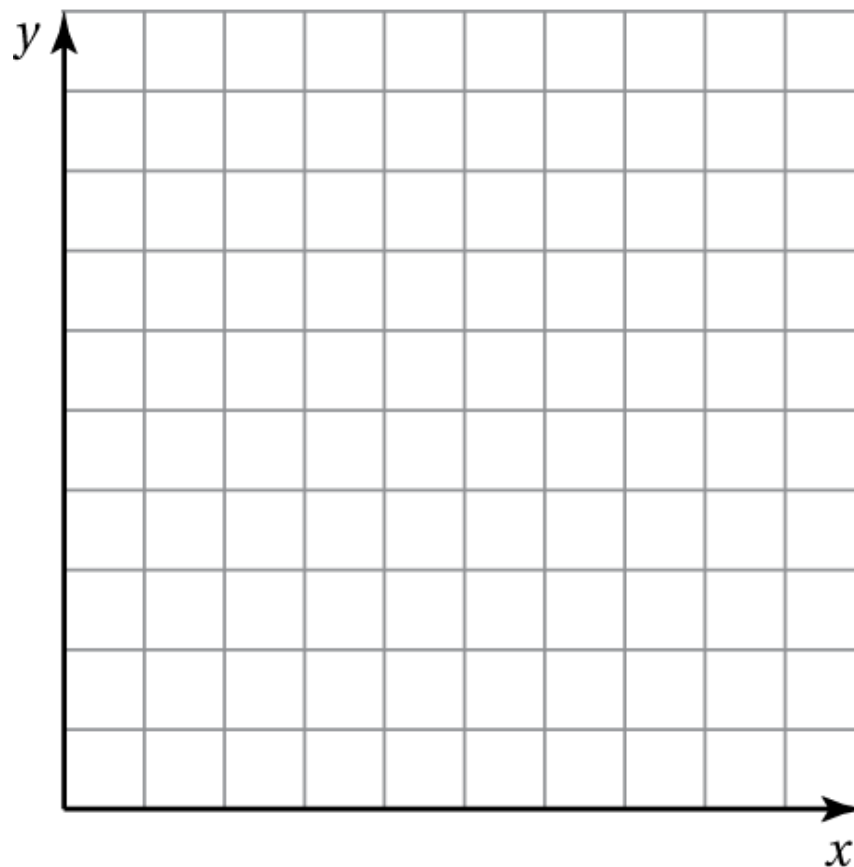
Inequalities

An **<u>inequality</u>** is a mathematical sentence that _____ _____.

To write an inequality, look for the following phrases to determine where to place the inequality symbol.

Inequality Symbols				
Symbol	**<**	**>**	**≤**	**≥**
Key Phrases	• is less than • is fewer than	• is greater than • is more than	• is less than or equal to • is at most • is no more than	• is greater than or equal to • is at least • is no less than