

Name _____ Date _____ Per _____

Solving Equations Study Guide

Solve the following equations.

1.) $-3x = 15$

2.) $x + 5 = -15$

3.) $\frac{x}{5} = -2$

4.) $x - 4 = -6$

5.) $-2x + 3 = 5$

6.) $\frac{2}{3}x = 4$

7.) $\frac{x}{3} + 7 = -1$

8.) $\frac{2x-4}{3} = 2$

9.) $\frac{1}{3}(3x - 6) = 9$

10.) $0.5x + 3.5 = 7.5$

11.) $3.4x + 1.2 = 1.4 - 8.8$

12.) $\frac{3}{4}x - 2 = -\frac{1}{4}x + 1$

13.) $-9x + 15 = -3x + 21$

14.) $-18 - 6x = 6(1 + 3x)$

15.) $2(6x - 9) = 3(4x - 6)$

16.) $-(4x - 6) = 2(4 - 2x)$

17.) $3(2x - 4) = -6(x + 2)$

18.) $-5(2x - 2) = \frac{2}{3}(3x - 3)$

Solving Equations Study Guide

19.) Nick opens a savings account with \$50. Each week after, he deposits \$15. In how many weeks will he have saved \$500?

Step 1: Underline any key information

Step 2: Define your variable.

Step 3: Write an equation

Step 4: Solve the equation:

Step 5: Answer in a complete sentence

20.) At one store a trophy costs \$12.50. Engraving costs \$0.40 per letter. At another store, the same trophy costs \$14.75. Engraving costs \$0.25. How many letters, e, must be engraved for the costs to be the same?

Step 1: Underline any key information

Step 2: Define your variable.

Step 3: Write an equation

Step 4: Solve the equation:

Step 5: Answer in a complete sentence.

21.) The length of Wendell Mitchell's dog run is 1 centimeter (cm) less than 3 times the width. If the perimeter is 54 cm, find the dimensions of his dog run. Formula: $P = 2w + 2l$ where P is the perimeter, w is the width, and l is the length.

22.) $|x| = 5$

23.) $|2x - 3| = 0$

24.) $|3x + 1| = -10$

25.) $-3|2x - 1| - 4 = -10$

26.) $2|x - 5| = 10$

27.) $|7x - 3| - 5 = 13$