

NAME: \_\_\_\_\_

**Algebra**  
**Quiz 3**  
***“Solving and Writing Equations”***

Solve each of the following equations.

1.)  $x + 7 = 35$

2.)  $10 = 3.5 + x$

3.)  $y - 3 = 12$

4.)  $x - 6.25 = 31$

5.)  $7x = 126$

6.)  $-2x = 48$

7.)  $\frac{x}{7} = 4$

8.)  $\frac{x}{-6} = 2.5$

9.)  $\frac{3x}{2} = 10$

10.)  $\frac{-5}{8}x = 4$

11.) You pay  $\frac{1}{5}$  of your monthly salary on your mortgage payment which is \$600. What is your monthly salary?

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12.)  $5x - 3 = 27$

13.)  $10x + 6 - 2x = 30$

14.)  $x + 8 = 4x - 7$

15.)  $3(x + 4) = 45$

16.)  $9x = 20 - 2(x - 3)$

17.)  $17 - (10 - x) = 13$

18.) There are two numbers. The first is three times larger than the second. The sum of the two numbers is 68. What are the two numbers?

19.) An industry has three production lines A, B, and C producing the same items. Line A produces 150 more items per week than Line B and Line C produces 70 fewer items per week than Line B. The week's total production for all three lines was 2705 items. *How many items did each line produce?*

Line A = \_\_\_\_\_

Line B = \_\_\_\_\_

Line C = \_\_\_\_\_

20.) Steel that is 5% nickel and 95% iron is mixed with another batch that is 2% nickel and 98% iron to make 3 tons of steel that is 4% nickel and 96% iron. How many tons of each original batch was used?

21.) Solve for R in the equation...  $I = MR^2$

22.) Solve for F in the equation...  $C = \frac{5}{9} (F - 32)$

23.) Solve for e in the equation ...  $M = \frac{PL}{ae}$