

Mid-Chapter Quiz

Translate each sentence into an equation.

1. The sum of three times a and four is the same as five times a .
2. One fourth of m minus six is equal to two times the sum of m and 9.
3. The product of five and w is the same as w to the third power.
4. **MARBLES** Drew has 50 red, green and blue marbles. He has six more red marbles than blue marbles and four fewer green marbles than blue marbles. Write and solve an equation to determine how many blue marbles Drew has.

Solve each equation. Check your solution.

5. $p + 8 = 13$

6. $-26 = b - 3$

7. $\frac{t}{6} = 3$

8. MULTIPLE CHOICE

Solve the equation $\frac{3}{5}a = \frac{1}{4}$.

A $\frac{3}{20}$

B 2

C $\frac{5}{12}$

D -3

Solve each equation. Check your solution.

9. $2x + 5 = 13$

10. $-21 = 7 - 4y$

11. $\frac{m}{6} - 3 = 8$

12. $-4 = \frac{d+3}{5}$

13. **FISH** The average length of a yellow-banded angelfish is 12 inches. This is 4.8 times as long as an average common goldfish.

- a. Write an equation you could use to find the length of the average common goldfish.
- b. What is the length of an average common goldfish?

Write an equation and solve each problem.

14. Three less than three fourths of a number is negative 9. Find the number.

15. Thirty is twelve added to six times a number. What is the number?

16. Find four consecutive integers with a sum of 106.

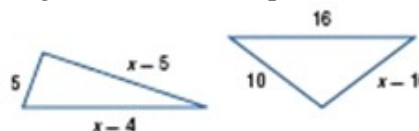
Solve each equation. Check your solution.

17. $8p + 3 = 5p + 9$

18. $\frac{3}{4}w + 6 = 9 - \frac{1}{4}w$

19. $\frac{z+6}{3} = \frac{2z}{4}$

20. **PERIMETER** Find the value of x so that the triangles have the same perimeter.



21. **PRODUCTION** ABC Sporting Goods Company produces baseball gloves. Their fixed monthly production cost is \$16,000 with a per glove cost of \$15. XYZ Sporting Goods Company also produces baseball gloves. Their fixed monthly production cost is \$20,000 with a per glove cost of \$13. Find the number of gloves produced monthly, so that the total monthly production cost is the same for both companies.

Evaluate each expression if $x = -4$, $y = 7$, and $z = -9$.

22. $|3x - 2| + 2y$

23. $|-4y + 2z| - 7z$

24. MULTIPLE CHOICE

Solve $|6m - 3| = 9$.

F $\{2\}$

G $\{-1, 2\}$

H $\{-3, 6\}$

J $\{-3, 3\}$

25. **COFFEE** Some say to brew an excellent cup of coffee, you must have a brewing temperature of 200°F , plus or minus 5 degrees. Write and solve an equation describing the maximum and minimum brewing temperatures for an excellent cup of coffee.