

Lesson 28T ~ Solving Equations with Variables on Both Sides

Name _____ Period _____ Date _____

SOLVING WITH VARIABLES ON BOTH SIDES

1. Move the variables to one side
2. Move constants away from the variables
3. Divide

Solve each equation for the variable. Show your work and check your solution.

1. $6y = 2y + 4$

$$\begin{array}{r} 6y = 2y + 4 \\ -2y \quad -2y \\ \hline \end{array}$$

=

$y =$

2. $10x + 5 = 8x - 25$

=

=

$x =$

Move the smaller variable. In this problem, move the 8x.

Check your answer:

6. $\boxed{} \stackrel{?}{=} 2 \cdot \boxed{} + 4$ YES NO

Check your answer:

10. $\boxed{} + 5 = 8 \cdot \boxed{} - 25$ YES NO

3. $20 - 5d = 5d$

4. $8p - 3 = 5p + 6$

Check your answer:

Check your answer:

5. $-4y - 21 = 3y$

6. $-8 + 4x = x + 19$

Check your answer:

Check your answer:

7. $1.5h - 2 = 14 - 2.5h$

8. $-6m + 5 = -9m - 13$

Check your answer:

Check your answer:

9. Cycle-rite offers two different fees for their spin classes. Club members are charged a one-time membership fee of \$15 and pay \$5 per class. Non-members pay \$8 per class. Let y represent the number of spin classes attended.

- a. Write an expression to represent the cost for a non-member to attend y classes.

$$\square \cdot y$$

- b. Write an expression to represent the cost for a member to attend y classes.

$$\square + \square \cdot y$$

- c. Set the two expressions equal to each other and solve the equation to determine how many classes result in the same cost for a member and non-member.

$$\square = \square$$