

Solving Linear Equations

HSA.REI.B.3

Name _____ Date _____

Solve each equation for the variable. Show every step, and check your answer by substituting it back into the original equation.

1. Solve for x :

$$2x + 5 = 17$$

2. Solve for y :

$$5y - 8 = 27$$

3. Solve for n :

$$\frac{n}{3} + 4 = 10$$

4. Solve for x :

$$3x + 7 = 5x - 9$$

5. Solve for w :

$$4(w - 3) = 20$$

6. Solve for a :

$$2(a + 5) = 3a - 1$$

7. Solve for x :

$$\frac{2}{3}x - 1 = 7$$

8. Solve for t :

$$6t - 4 = 2(t + 6)$$

9. Solve for x :

$$3(2x - 1) = 4x + 9$$

10. Solve for x :

$$2(x + 4) = 2x + 4$$

If there is no solution, write **no solution**.

11. Solve for x :

$$3(x - 2) + 4 = 3x - 2$$

If it is true for all values, write **all real numbers**.

12. Which equation has the solution $x = 5$?

A) $2x + 1 = 9$

B) $3x - 4 = 11$

C) $4x = 16$

D) $x + 7 = 13$

13. A taxi charges a \$3 flat fee plus \$2 per mile. The total fare for a trip was \$19. Write and solve an equation to find the number of miles m .

14. Two siblings save money. Maya has \$40 and saves \$6 per week. Liam has \$58 and saves \$3 per week. After how many weeks w will they have the same amount? How much will that be?