

Topic: Solving**Types of Solutions**

Solve each equation and label each as the correct type of solution (1 solution, no solutions, infinite solutions). Explain how you know. There are 12 questions, choose 6 to complete and do the rest for more practice.

a. $2x + 2x + 2 = 4x + 2$

$$4x + 2 = 4x + 2$$

infinite solutions

b. $3(x - 1) = 2x + 9$

$$x = 12$$

1 solution

c. $2x + 8 = 2(x + 4)$

$$2x + 8 = 2x + 8$$

infinite solutions

d. $2x - x + 7 = x + 3 + 4$

$$x + 7 = x + 7$$

infinite solutions

e. $-2(x + 1) = -2x + 5$

$$-2 = 5$$

no solutions

f. $4x + 2x + 2 = 3x - 7$

$$x = -3$$

1 solution

g. $2(x + 2) + 3x = 2(x + 1) + 1$

$$x = -\frac{4}{3}$$

1 solution

h. $4(x - 1) = \frac{1}{2}(x - 8)$

$$x = 0$$

1 solution

i. $x + 2x + 7 = 3x - 7$

$$7 = -7$$

no solutions

j. $3x - x + 4 = 4(2x - 1)$

$$x = \frac{8}{6}$$

1 solution

k. $4(2x + 1) = 5x + 3x + 9$

$$4 = 9$$

no solution

l. $10 + x = 5\left(\frac{1}{5}x + 2\right)$

$$10 + x = x + 10$$

infinite solutions