

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 19.1 - Equations with No Solution or Infinitely Many Solutions

Solve each equation.

1. $2x + 3 = 2x + 7$

2. $3(m - 5) = 4m - 15 - m$

$$3m - 15 = 4m - 15 - m$$

$$3m - 15 = 3m - 15$$

$$\color{red}{-3m} \quad \color{red}{-3m}$$

$$-15 = -15$$

All real numbers

3. $-2(x + 3) = -2x - 6$

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

$$8j - 4 = 3j - j + 4$$

$$8j - 4 = 2j + 4$$

$$\color{red}{-2j} \quad \color{red}{-2j}$$

$$6j - 4 = 4$$

$$\color{red}{+4} \quad \color{red}{+4}$$

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

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

$$\implies \boxed{j = \frac{4}{3}}$$

5. $2(y + 2) + 3y = 3(y + 1) + 2y + 7$

6. $-(4z + 7) = -2 + 4z$

$$-4z - 7 = -2 + 4z$$

$$\color{red}{-4z} \quad \color{red}{-4z}$$

$$-8z - 7 = -2$$

$$\color{red}{+7} \quad \color{red}{+7}$$

$$\frac{-8z}{-8} = \frac{5}{-8}$$

$z = -\frac{5}{8}$

7. $-21 - 8a = -1 + 6(4 - 5a)$

$$8. -(m-6) - 8 = -(1+m)$$

$$-m + 6 - 8 = -1 - m$$

$$-m - 2 = -1 - m$$

$+m$

$+m$

$$-2 \neq -1$$

No solution

$$9. 8(k-6) + 58 = 2(4k+5)$$

$$10. -7r - 12 = -4r + 3(-4 - r)$$

$$-7r - 12 = -4r - 12 - 3r$$

$$-7r - 12 = -7r - 12$$

$+7r$

$+7r$

$$-12 = -12$$

All real numbers

$$11. 4(-4 - 8m) + 28m + 4m = -272$$

$$12. 5(-2w + 3) - 4w + 5 = 2(3w + 1) - 20w + 18$$

$$-10w + 15 - 4w + 5 = 6w + 2 - 20w + 18$$

$$-14w + 20 = -14w + 20$$

$+14w$

$+14w$

$$20 = 20$$

All real numbers

$$13. 93 + 12v = 3(4v - 1) + 96$$