

What DO You Remember?

Solve each equation or inequality below without a calculator. Be sure to show all your work!!!

1. $2(2x - 3) + 3(x + 1) = 5x + 2$

$$4x - 6 + 3x + 3 = 5x + 2$$

$$7x - 3 = 5x + 2$$

$$2x - 3 = 2$$

$$2x = 5$$

$$x = 5/2$$

2. $3(5z - 3) - 4(2z + 1) = 5z - 2$

$$15z - 9 - 8z - 4 = 5z - 2$$

$$7z - 13 = 5z - 2$$

$$2z - 13 = -2$$

$$2z = 11$$

$$z = 11/2$$

3. $\left(\frac{5y-2}{8} = 2 + \frac{y}{4}\right) 8$

$$5y - 2 = 16 + 2y$$

$$3y - 2 = 16$$

$$3y = 18$$

$$y = 6$$

4. $\left(\frac{t+5}{8} - \frac{t-2}{2} = \frac{1}{3}\right) 24$

$$3(t+5) - 12(t-2) = 8$$

$$3t + 15 - 12t + 24 = 8$$

$$-9t + 39 = 8$$

$$-9t = -31$$

$$t = 31/9$$

5. $3(x - 1) + 2 \leq 5x + 6$

$$3x - 3 + 2 \leq 5x + 6$$

$$3x - 1 \leq 5x + 6$$

$$-1 \leq 2x + 6$$

$$-7 \leq 2x$$

$$-7/2 \leq x$$

$$x \geq -7/2$$

6. $\left(\frac{3-4y}{6} - \frac{2y-3}{8} \geq 2-y\right) 24$ $y \geq 27/2$

$$4(3-4y) - 3(2y-3) \geq 24(2-y)$$

$$12 - 16y - 6y + 9 \geq 48 - 24y$$

$$-22y + 21 \geq 48 - 24y$$

$$2y + 21 \geq 48$$

$$2y \geq 27$$

$$y \geq \frac{27}{2}$$

$$-1 < y < \frac{5}{3}$$

7. $-3 < \frac{2x+5}{3} \leq 5$

$$-9 < 2x+5 \leq 15$$

$$-14 < 2x < 10$$

$$\boxed{-7 < x < 5}$$

8. $1 > \frac{3y-1}{4} > -1$

$$4 > 3y-1 > -4$$

$$5 > 3y > -3$$

$$\boxed{\frac{5}{3} > y > -1 \text{ or } -1 < y < \frac{5}{3}}$$

Find the slope of the line through the two points.

9. $(-1, 2)$ and $(4, -2)$

$$\frac{-2-2}{4-(-1)} = \boxed{\frac{-4}{5}}$$

10. $(1, 1)$ and $(3, 4)$

$$\frac{4-1}{3-1} = \boxed{\frac{3}{2}}$$