

Quiz 16

Solutions given without showing work may earn a zero. This quiz is closed-book, but you may use a calculator.

Problem 1. [3 points] Solve the compound inequality and graph your solution on a number line.

$$2x \geq 4 \quad \text{or} \quad 3x + 2 < 2x - 3$$

Problem 2. [3 points] Solve for x .

$$\left| \frac{2x + 5}{2} \right| = 4$$

Problem 3. [4 points] Solve the inequality and graph your solution on a number line.

$$|2x - 1| + 5 < 12$$

①

$$2x \geq 4$$

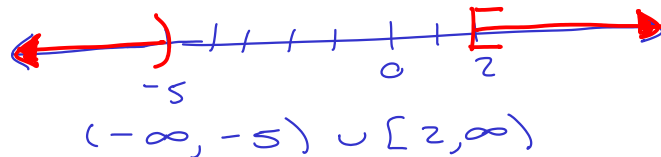
$$x \geq 2$$

or

$$3x + 2 < 2x - 3$$

$$x + 2 < -3$$

$$x < -5$$



②

$$\frac{2x + 5}{2} = 4$$

$$2x + 5 = 8$$

$$2x = 3$$

$$x = \frac{3}{2}$$

or

$$\frac{2x + 5}{2} = -4$$

$$2x + 5 = -8$$

$$2x = -13$$

$$x = -\frac{13}{2}$$

③

$$|2x-1|+5<12$$

$$|2x-1|<7$$

$$2x-1<7$$

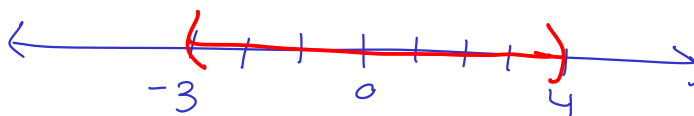
and

$$2x-1>-7$$

$$2x<8$$

$$2x>-6$$

$$\boxed{x<4 \quad \text{and} \quad x>-3}$$



$(-3, 4)$