

NAME: _____ Score _____/10

Please **print** your name1. Solve $4x - 2 > 8x + 1$.

$$4x - 2 > 8x + 1$$

$$-2 > 4x + 1$$

$$-3 > 4x$$

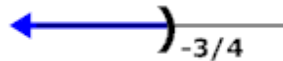
$$-\frac{3}{4} > x$$

Write your answer using set-builder notation.

$$\left\{ x \mid x < -\frac{3}{4} \right\}$$

Write your answer using interval notation.

$$\left(-\infty, -\frac{3}{4} \right)$$

Sketch the graph of $4x - 2 > 8x + 1$.2. Consider $|3x - 4| < 6$.

Write this inequality as an equivalent compound inequality and solve the compound inequality.

The absolute value inequality $|3x - 4| < 6$ is equivalent to the compound inequality $-6 < 3x - 4 < 6$.

See Properties of inequalities (Item 1) and Example 3 on Page 136 of your textbook. See also the penultimate (look it up) Fact in the Chapter One Summary on the DrDelMath website.

$$-6 < 3x - 4 < 6$$

$$-2 < 3x < 10$$

$$-\frac{2}{3} < x < \frac{10}{3}$$

Write your answer using set-builder notation.

$$\left\{ x \mid -\frac{2}{3} < x < \frac{10}{3} \right\}$$

Write your answer using interval notation.

$$\left(-\frac{2}{3}, \frac{10}{3} \right)$$

Sketch the graph of $|3x - 4| < 6$.

3. Write the Law of Trichotomy.

If a and b are real numbers then exactly one of the following is true:

i) $a < b$

ii) $a = b$

iii) $a > b$