

NAME: _____ Score _____/10

Please **print** your name NO DECIMALS

- 1) **T** **F** $|3x - 7| < 4$ is equivalent to $-4 < 3x - 7 < 4$.
- 2) **T** **F** $|3x - 7| > 4$ is equivalent to $-4 > 3x - 7 > 4$.
- 3) **T** **F** $|3x - 7| < -4$ is equivalent to $3x - 7 < |-4|$.
- 4) The solution set for $|-5x + 7| < 4$ is $\left(\frac{3}{5}, \frac{11}{5}\right)$

a. What is the solution set for $|-5x + 7| = 4$. Write your response using the roster method.

$$\left\{\frac{3}{5}, \frac{11}{5}\right\}$$

What is the solution set for $|-5x + 7| > 4$. Write your response in interval notation.

$$\left(-\infty, \frac{3}{5}\right) \cup \left(\frac{11}{5}, \infty\right)$$

- 5) What is the solution set for $\left|\sqrt{5}x - \frac{7}{15}\right| > -8$? **R**

- 6) What is the solution set for $\left|\frac{4}{7}x - \frac{12}{7}\right| = 0$?

$$\left|\frac{4}{7}x - \frac{12}{7}\right| = 0 \text{ is equivalent to}$$

$$\frac{4}{7}x - \frac{12}{7} = 0$$

$$\frac{4}{7}x = \frac{12}{7}$$

$$x = \left(\frac{12}{7}\right)\left(\frac{7}{4}\right) = 3$$

The solution set is {3}.

- 7) Suppose we label the solution set for $\left|\frac{3}{5}x - \frac{7}{\sqrt{15}}\right| < \frac{\sqrt{14}}{2 + \sqrt{5}}$ as A, the solution set for

$$\left|\frac{3}{5}x - \frac{7}{\sqrt{15}}\right| = \frac{\sqrt{14}}{2 + \sqrt{5}}$$
 as B, and the solution set for $\left|\frac{3}{5}x - \frac{7}{\sqrt{15}}\right| > \frac{\sqrt{14}}{2 + \sqrt{5}}$ as C. Then

a. $A \cup B \cup C = \mathbf{R}$

b. $A \cap B = \emptyset$

c. $(A \cap B) \cup C = \mathbf{C}$