MTH 103 College Algebra, Quiz 3

Directions: Please answer in the space provided. Answers without supporting work may not receive full credit. You have 10 minutes to complete this quiz.

Calculator Policy: You may use a simple or graphing calculator (the TI-83 or TI-84 is recommended) which does NOT have a computer algebra system (CAS). You may NOT use calculators such as the TI-89/92+/NSPIRE, Voyage 200, HP49G/49G+/50G, Casio algebf2.0/algefx2.3pl, nor may you use a cell phone, tablet, ipad, or other internet capable device.

1. (4 points) Solve the inequality below. Write your answer using interval notation.

\[ 7 - 2x \leq 4(1 - 3x) + 1 \]

\[ 7 - 2x \leq 4 - 12x + 1 \]

\[ 10x \leq -2 \]

\[ x \leq \frac{-1}{5} \]

\[ (-\infty, \frac{-1}{5}] \]
2. (2 points) Express the intersection below as a single interval.

\[ (-\infty, 7) \cap [-3, \infty) \]

3. (4 points) Solve the inequality below. Express your answer using interval notation.

\[ x^2 - 3x \leq -2 \]

\[ x^2 - 3x + 2 \leq 0 \]

\[ (x - 1)(x - 2) = 0 \]

\[ \gamma = 1, 2 \]

Test \( x^2 - 3x + 2 \) for signs

\[ \frac{1}{2} \]

\[ x \in [1, 2] \]