ALGEBRA 2
PROBLEM SET #6

DUE DATE: SEPTEMBER 7, 2023

Question 1. Solve for all x that satisfy the absolute values:

(a) $|x| = 3$

(b) $|x - 1| = 4$

(c) $|2x + 3| = 7$

(d) $|3 - 2x| = 3$

(e) $\left|\dfrac{3x + 2}{1 - x}\right| = 4$

Question 2. Solve for all x that satisfy the inequalities and plot your answer on a number line:

(a) $|x| \geq 3$

(b) $|x| < 4.5$

(c) $|x + 4| \geq 2$

(d) $|2 - 7x| \leq 5$

Question 3. Draw a graph of the function

$$f(x) = \begin{cases} x & \text{if } x > 0 \\ -1 & \text{if } x = 0 \\ 4 & \text{if } -2 \leq x < 0 \\ 2 & \text{else} \end{cases}$$