

Show all work clearly and in order, and circle or box your final answers, using set notation if appropriate. You have 20 minutes to take this 5 point quiz.

1. (1 point) Solve  $|1 - 4x| - 7 < 2$ .

2. (2 points) Given  $P_1 = (-3, 2)$  and  $P_2 = (6, 0)$ ,

a) Using the distance formula, find the distance between  $P_1$  and  $P_2$ .

b) Using the midpoint formula, find the midpoint of  $P_1$  and  $P_2$ .

3. (2 points) Let  $y = \frac{3x}{x^2 + 9}$ .

a) Find any intercepts.

b) Check for any symmetry.