Math 156 PRECALCULUS
Fall 2015

Quiz 3 – Retake

Tuesday, September 29, 2015

Name:_____

This quiz has 8 problems worth a total of 30 points. It is TWO SIDED.

1. (3 points) Solve the linear inequality $-9 \leq 4 - 5x < 4$ and express the solutions using interval notation.

Answer: _____

2. (4 points) Solve the absolute value inequality $\left| \frac{x}{4} \right| \leq 6$ and express the answer using interval notation.

Answer: _____

3. (4 points) Solve the nonlinear inequality $(2 - x)(x - 4) < 0$ and express the solution using interval notation.

Answer: _____

4. (2 points each) Given the pair of points $(-5, 1)$ and $(2, 3)$, (a) find the distance between the points and (b) the midpoint of the segment that joins them.

distance: _____

midpoint: _____

5. (3 points) Find the center and radius of the circle $(x+2)^2 + (y-5)^2 = 25$.

center: _____

radius: _____

6. (4 points) Find an equation of the line through the points $(10, 4)$ and $(-3, 8)$.
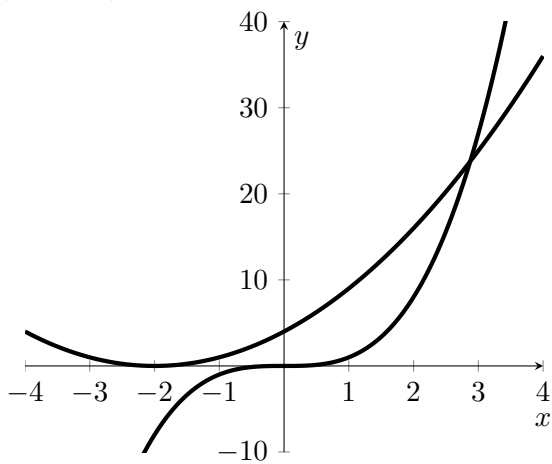
Answer: _____

7. (4 points) Determine if the two lines below are parallel, perpendicular, or neither. You must explain your answer.
$$y = \tfrac{1}{2}x - \tfrac{4}{3}, \qquad 4y - 2x = 3$$

Answer: _____

8. (4 points) Use the graphs below to solve the inequality $(x+2)^2 \le x^3$.

Answer: _____