Math 156 PRECALCULUS
Fall 2015

Quiz 3 – Version A

Thursday, September 24, 2015

Name:_____

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

1. (3 points) Solve the linear inequality $-2 \leq 4 - 6x < 9$ and express the solutions using interval notation.

Answer: _____

2. (4 points) Solve the absolute value inequality $|x - 7| \geq 3$ and express the answer using interval notation.

Answer: _____

3. (4 points) Solve the nonlinear inequality $(x - 1)(x - 4) < 0$ and express the solution using interval notation.

Answer: _____

4. (2 points each) Given the pair of points $(-3, 6)$ and $(2, 5)$, (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 $(x+1)^2 + (x-3)^2 = 16$.

center: _____

radius: _____

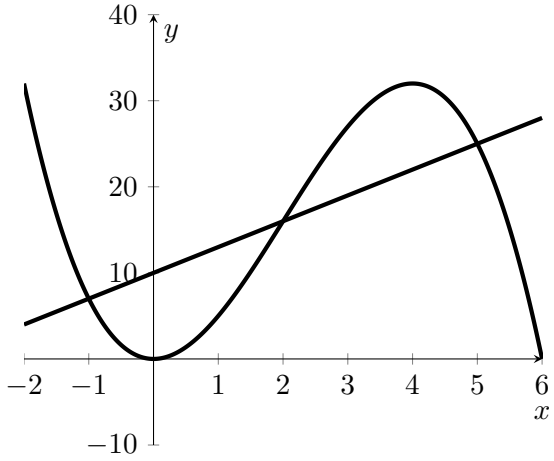
6. (4 points) Find an equation of the line through the points $(-2, 6)$ and $(4, 5)$.

Answer: _____

7. (4 points) Find an equation of the line through the point $(2, 1)$ perpendicular to the line $y = 8x - 5$.

Answer: _____

8. (4 points) Use the graphs below to solve the inequality $3x + 10 > 6x^2 - x^3$.



Answer: _____