Name: __________________________

1. Class notes for this week: This week we have covered Sections 2.5, 2.6, and 2.7. Next week we will cover Section 2.8, which will take two lectures, and do a bit of exam review.

2. A reminder that all exam information is at math.msu.edu/Classes/mth_132 under the “Uniform Exams” tab. Go to “Content” to find the formula sheet and previous exams, and to “Exam 1 Locations and Info” for exam logistics.

3. (a) (1 point) Suppose a particle moves along a line with position \( s(t) = t^4 - 2t^3 + t^2 \). Find the velocity and acceleration. At what points are velocity and acceleration zero?

   (b) (2 points) Draw the position, velocity, and acceleration graphs corresponding to the particle’s motion.

Question 4 is on the back
4. The curve \( x^2 + y^2 = 1 \) is called an astroid. There is a picture below.

Find the tangent line to this curve at \( \left( -\frac{3\sqrt{3}}{8}, \frac{1}{8} \right) \).