

Write your name on the cover of the test booklet and nowhere else. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 140 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 16-point question should take 8 minutes. I cannot allow extra time because of the class that follows our class.

Show all work and write each answer on a separate side of a sheet of paper.

1) (18 points) For EITHER $Y = X^2 + 4$ OR $Y = X^3$, do the tests for X-axis symmetry, Y-axis symmetry, AND symmetry around the origin. Tell me which test(s) succeeded and which failed. Do NOT worry about graphing the relationship.

2) (10 points) Solve $\frac{X}{X+7} = 3 - \frac{7}{X+7}$.

3) (12 points) Answer EITHER Part A OR Part B.

A) Suppose that at the time you get this test back your grade is 60%. At that time, there will be 400 points available. At the end of the semester, there will be 1000 points. If you want a grade of 72%, then what do you have to average for the rest of the semester?

B) Suppose a canoe is going on a round trip. The person paddles 5 MPH. There is a current of speed C MPH. He paddles the same distance up stream as down stream. If he spent 6 hours going upstream and 4 hours paddling down stream, then how fast was the current?

4) (16 points) Solve $3X^2 - 6X + 2 = 0$. Also simplify $\frac{3\sqrt{X} + X\sqrt{3}}{\sqrt{3X}}$

5) (8 points) Simplify $\frac{3+5i}{1+3i}$

6) (10 points) Solve $X^4 - 10X^2 = -9$

7) (10 points) Solve $|X-3| = 2X$.

8) (16 points) Solve $\frac{X^2 - 3X - 10}{X - 1} \geq 0$. You do NOT need to plot the line, but it will probably

help you figure out what you are doing.