TEST 1 - MATH 140

DATE: Friday, January 20

INSTRUCTOR: George Voutsadakis

Read each problem very carefully before starting to solve it. Each question is worth 5 points. It is necessary to show your work. Correct answers without explanations are worth 0 points.

GOOD LUCK!!

- 1. (a) Solve $x^2 11x + 18 = 0$ by factoring. (2 points)
 - (b) Solve $(5x-1)^2 = 9$ by the Square Root Method. (1 point)
 - (c) Solve $7 3x \le -2$ and express the solution in interval notation. (2 points)
- 2. (a) Find the length of the straight line segment with endpoints (-1, 4) and (3, -5). (3 points)
 - (b) Find the midpoint of the straight line segment with endpoints (-7, 19) and (-2, -3). (2 points)
- 3. (a) Find two points on the graph of the equation y = -2x + 6. (1 point)
 - (b) Sketch the graph of the equation y = -2x + 6 using the points that you found in the previous part. (2 points)
 - (c) Find the x- and the y-intercepts of the graph of y = -2x + 6. (2 points)
- 4. (a) Test the equation $y = \frac{x}{r^3 3}$ for symmetry with respect to the origin. (2 points)
 - (b) Graph the equation $(x-1)^2 + y^2 = 9$. (1 point)
 - (c) Find the center and the radius of the circle with equation $x^2 + y^2 x + 2y + 1 = 0$. (2 points)
- 5. (a) If $f(x) = \frac{x^2-1}{x+4}$ find f(x+1). Simplify your answer. (2 points)
 - (b) Find the domain of $f(x) = \frac{x-2}{x^3-x}$. (3 points)