Sample Test 2, Calculator and Slopes
October, 2011
Introduction to Calculus - Bro. Gary

_____
Name

1. Find the slope of the line between
(-2, 5) and (4, -3)

1. _____

2. Find the distance between the points:
(-2, 5) and (4, -3)

2. _____

3. Find the equation of the line through (4, -2) with a slope of - 4/3.

3. *[General Form]* _____

4. Find the equation of the line tangent to the curve $y = x^2 + 3x - 5$ at the point (-2, -7). This line is parallel to the line $x + y - 8 = 0$.

4. *[General Form]* _____

5. Line A intersects with the line $3x - 2y - 3 = 0$ at the point (-3, -6). At the point of intersection, a right angle is formed. What is the equation of Line A?

5. *[General Form]* _____

For Questions 6 -9, solve the following quadratic equations. If the solutions are irrational or complex, they must be given in exact (radical) form; decimal approximations are not acceptable.]

6. Solve: $6x^2 - 17x + 12 = 0$

7. Solve: $4x^2 - 8x - 1 = 0$

6. _____

7. _____

8. Solve: $x^2 + 9x + 20 = 0$

9. Solve: $x^2 - 4x + 13 = 0$

8. _____

9. _____

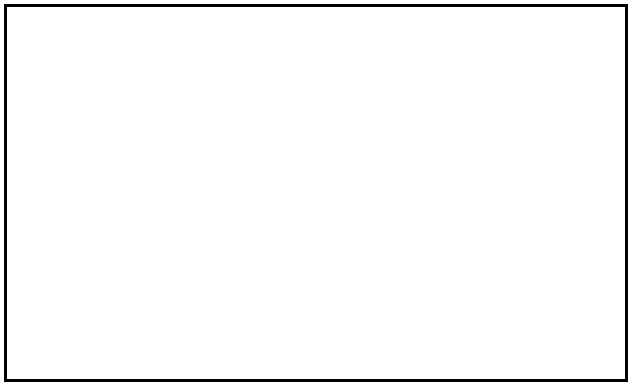
For Questions 10 -12, sketch the graph of the polynomial and find its solutions. Irrational solutions may be approximated in decimal form, to the regular accuracy.

10. Solve: $0 = x^5 + x^4 - 19x^3 - x^2 + 90x - 72$

For the sketch, use the window:
$-5 \le x \le 5$, $-300 \le y \le 300$

10. Solutions: _____

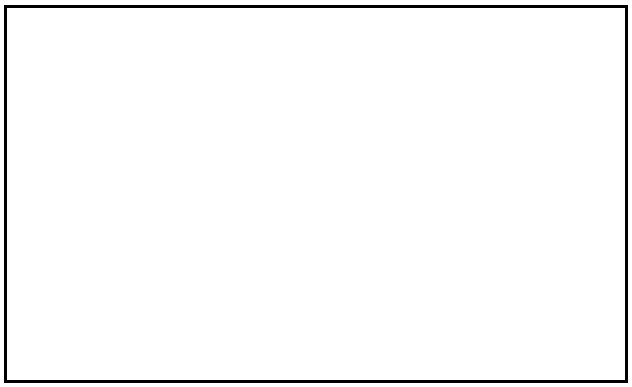
11. Solve: $0 = 30x^4 - 7x^3 - 467x^2 + 726x - 216$



For the sketch, use the window:
$-5 \le x \le 5, \quad -4000 \le y \le 2000$

11. Solutions: _____

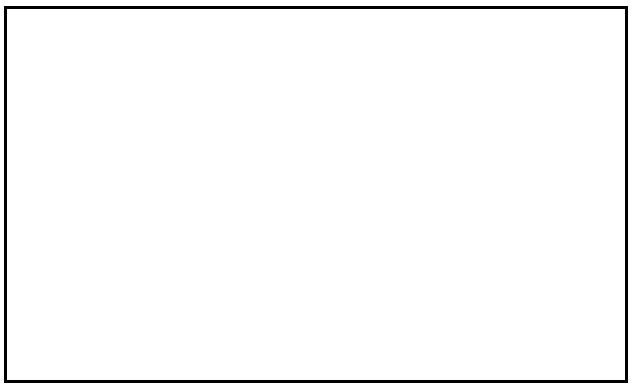
12. Solve: $0 = x^3 - 2x^2 - 7x - 4$



For the sketch, use the window:
$-5 \le x \le 5, \quad -25 \le y \le 25$

12. Solutions: _____

13. Plot the equations and find the point of intersection of the graphs of
$x^2 + y = 6$
$x + y = 4$



13. Points of Intersection:
_____

14. Find the sales necessary to break even if costs, $C = 5.7\sqrt{x} + 9{,}000$, and revenue is $R. = 3.35x$.

14. Sales: _____

15. A small business depreciates its equipment using linear depreciation. If a piece of equipment cost $5,000 new and has no value after 5 years, how much was it worth after two years?

15. Value: _____

*- - End of Practice Test - -*