## EXAM 4 - MATH 102 YOUR NAME:

Read each problem **very carefully** before starting to solve it. Each problem is worth 10 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

- 1. Perform the following operations and simplify:
  - (a)  $3\sqrt{2}(5\sqrt{2} 7\sqrt{3}) =$

(b)  $\sqrt[4]{32x^5y^8} =$ 

(c)  $(9y^4x^{1/2})^{1/2} =$ 

2. Rationalize the denominators:

(a) 
$$\frac{1}{\sqrt[3]{2x^2}} =$$

(b) 
$$\frac{2}{5-\sqrt{3}} =$$

3. Solve the equation  $\sqrt{2x^2 + x - 12} = x$ 

4. Suppose that a rectangle has a perimeter of 20 ft and a diagonal of  $2\sqrt{13}$  ft. What are its dimensions? (You are supposed to show full work; guessing is not an option.)

5. Solve the equation  $(x - 1)^{-2/3} = 4$ .