

Name:

Exam 2 Practice :: Math 111 :: October 4, 2015

1. If your three exam grades were 70, 82, and 85. What's the minimum exam score you must achieve to earn an average of 80?

2. Assume you have 200' feet of wire to use as a rectangular fence around your garden.
 - (a) What is the area of the region enclosed by your fence if the width of the rectangle is one-quarter as long as the length?

 - (b) What is the area if the width is one-tenth as long as the width?

 - (c) What is the area if the width and length are the same?

 - (d) Do squares or rectangles enclose more area if their perimeters are equal?

3. An open box is to be made from a $10' \times 6'$ sheet of cardboard by removing square sections from the corners and folding up the sides.
 - (a) What is the volume of the box if a square of size $1.5' \times 1.5'$ is removed?

 - (b) What is the volume of the box if a square of size $3' \times 3'$ is removed?

4. Find all real solutions to:

(a)

$$x^2 + 10x + 25 = 0$$

(b)

$$.6x^2 - \sqrt{2}x - \pi = 0$$

(c)

$$x^2 - 16x - 36 = 0 \text{ by completing the square}$$

(d)

$$x - 7\sqrt{x} + 12 = 0 \text{ by factoring}$$

5. Find all real solutions to:

(a)

$$\sqrt{2x - 1} = -3x + 5$$

(b)

$$\frac{1}{x} + \frac{2}{x - 1} = 3$$

6. Solve the inequality

(a)

$$5x + 1 < x + 7$$

(b)

$$2x(x - 10) \geq 0$$

7. Solve the inequality

(a)

$$\frac{10 - 2x}{10 + x} \leq 5$$

(b)

$$|16 - 2x| > 10$$

(c)

$$\left| \frac{x^2 - 1}{-7} \right| < 5$$