Sample Exam3 - Solutions

MAT 1275 Fall 2016

Part I.

1. length= 5cm, width=12cm, or width=5cm and length=12cm

2. one leg=9 in, the other 12 in

3. the lengths are 6m, 8m and 10m

Part II.

1. (a) vertex $(-2, 1)$, axis of symmetry $x = -2$, no (x)-intercepts, (y)-intercept at $(0, 5)$

   (b) vertex $(0, 5)$, axis of symmetry $x = 0$, no (x)-intercepts, (y)-intercept at $(0, 5)$

   (c) vertex $(-5, -2)$, axis of symmetry $x = -5$,(x)-intercepts at $(-6.41, 0)$ and $(-3.59, 0)$, (y)-intercept at $(0, 23)$

   (d) vertex $(2, 17)$, axis of symmetry $x = 2$, (x)-intercepts at $(-0.915, 0)$ and $(4.915, 0)$, (y)-intercept at $(0, 9)$

   (e) vertex $(-2, -4)$, axis of symmetry $x = -2$, (x)-intercepts at $(0, 0)$ and $(-4, 0)$, (y)-intercept at $(0, 0)$

Part III.

1. radius=$\sqrt{10}$

2. (a) center $(3, -1)$, radius=4

   (b) center $(-1, 0)$, radius=1

   (c) center $(-2, 4)$, radius=2

   (d) center $(-5, -3)$, radius=4

Part IV.

1. $(-3, 4, 1)$

2. $(3, 2, 4)$

3. $(2, \dfrac{3}{2}), (-7, 6)$

4. $(-2, 1), (-2, -1), (1, 2), (1, -2)$
5. $(2, 1), (-2, 1), (2, -1), (-2, -1)$