

Quiz #4 – Take-home

Name: _____

Due date: Thursday, June 8, 2017

Math 150, Prof. Beydler

Directions: Show all work. You may use your notes and book. It's okay to get help, just be sure you're not copying someone else's work. Please box your answers.

1. (2 points) Two forces of 430 newtons and 545 newtons act at a point. The resultant force is 810 newtons. Find the angle between the forces (in degrees).

Answer: _____

2. (2 points) Find the direction (in degrees from the positive x -axis) of $\vec{v} = \langle -3, 7 \rangle$.

Answer: _____

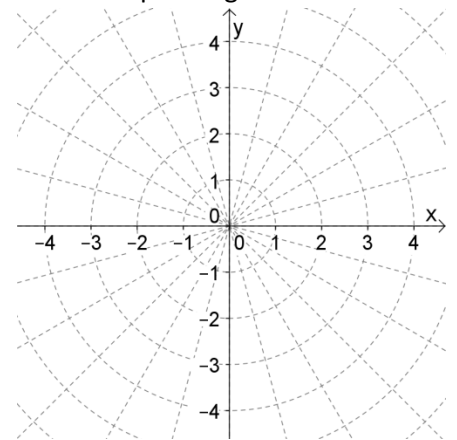
3. (2 points) Plot the following pairs of polar coordinates. Label each point with the corresponding letter.

A: $(3, 135^\circ)$

B: $(-2, 270^\circ)$

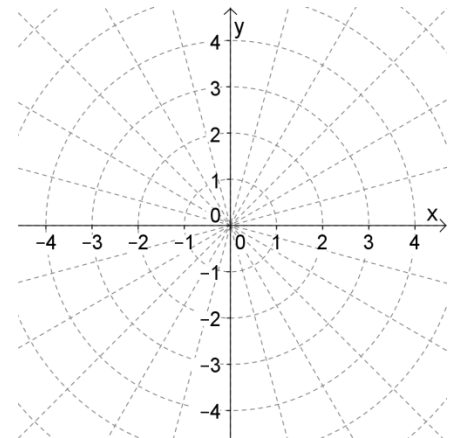
C: $(0, \frac{5\pi}{3})$

D: $(-4, \frac{19\pi}{6})$

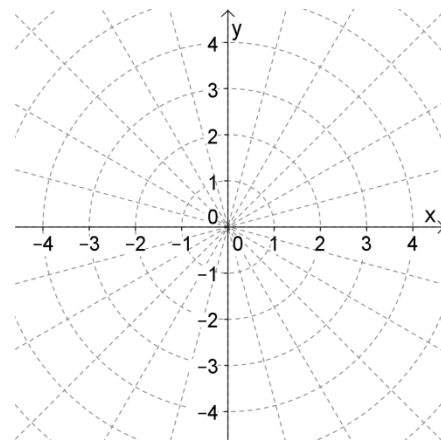


4. (2 points) Find an equivalent equation in rectangular coordinates and graph it.

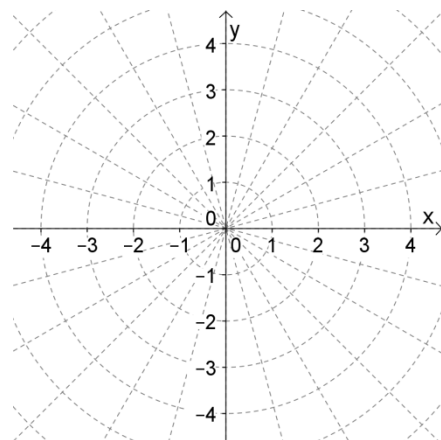
$r = 2 \sin \theta$



5. (2.5 points) Graph $r = 1 - 2 \cos \theta$.



6. (2.5 points) Graph $r = 4 \cos 3\theta$.



7. (2 points) Find a rectangular equation for the following curve, then graph the parametric curve.

$$x = t^2 - 3, \quad y = t^2 - 1, \quad \text{for } t \text{ in } (-\infty, \infty)$$

