24 points

- 1. Convert the rectangular points to polar coordinates with positive r and $0 \le \theta < 2\pi$. [2 pts each]
 - a) $(8\sqrt{2}, -8\sqrt{2})$

b) $(-7\sqrt{3}, 0)$

2. Convert the polar points to rectangular coordinates. [2 pts each]

a)
$$(9, \frac{7\pi}{6})$$

b)
$$\left(-8, -\frac{27\pi}{2}\right)$$

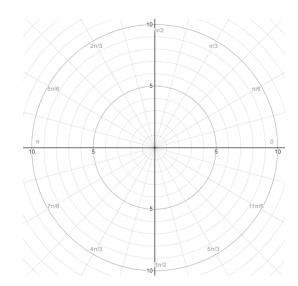
3. Convert the polar equation to rectangular. Give your answers in the form of y as a function of x. [2 pts each]

a)
$$13 = \cot \theta$$

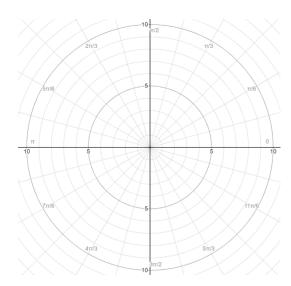
b)
$$r = 7$$

4. Graph each equation. Then classify each graph according to its most specific name. [2 for graph, 1 for name]

a)
$$r = 3 + 4 \sin \theta$$



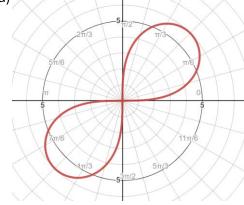
b)
$$r = 6 \cos 4\theta$$



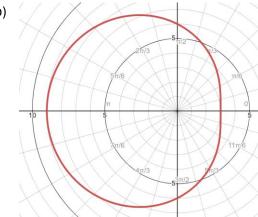
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5. Write the equation of each graph. Then classify each graph according to its most specific name. [2 for equation, 1 for name]





b)



Equation:

Equation:

Name: _____

Name: _____