WebAssign
Hw 33 (10.3): Polar Coordinates (Homework)

Yinglai Wang
MA 162 Spring 2012, section 321, Spring 2012
Instructor: Jonathan Montano

Current Score : 20 / 20 **Due :** Tuesday, April 17 2012 11:55 PM EDT

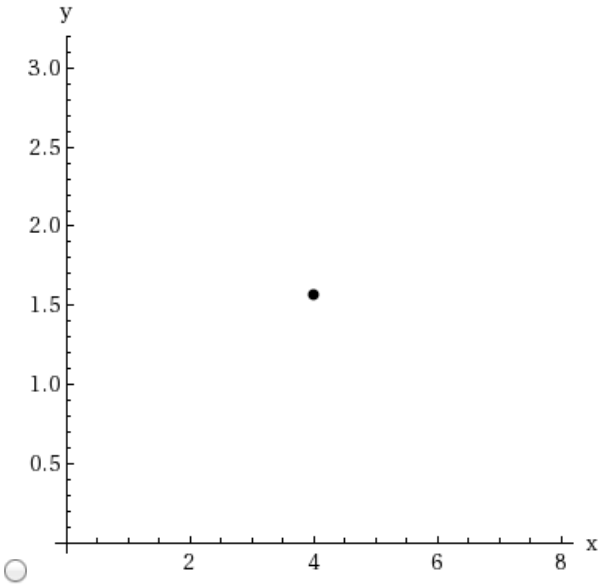
1. 2.22/2.22 points | Previous Answers SCalcET7 10.3.001.

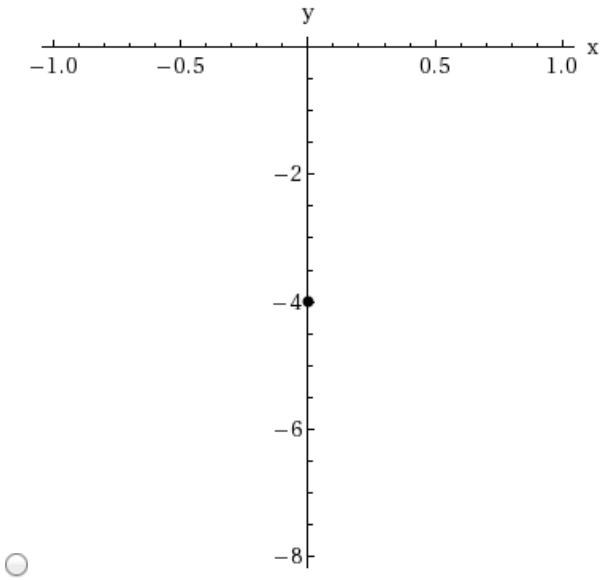
Find two other pairs of polar coordinates of the given polar coordinate, one with $r > 0$ and one with $r < 0$. Then plot the point.

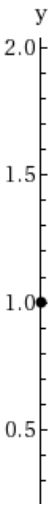
(a) $(4, \pi/2)$

(r, θ) = (✔) $(r > 0)$

(r, θ) = (✔) $(r < 0)$



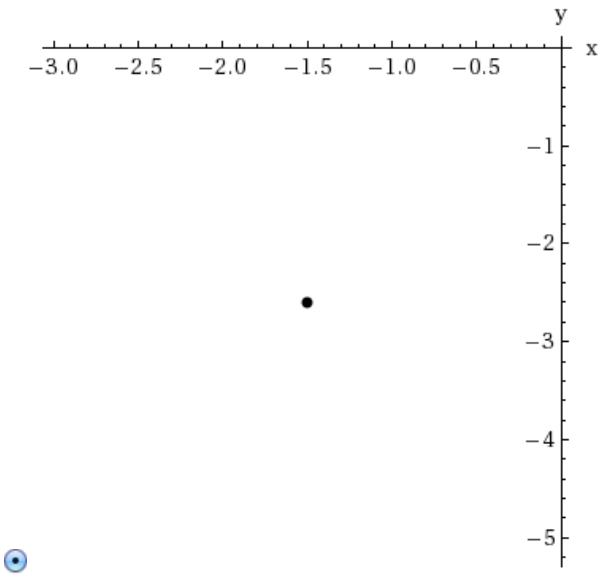


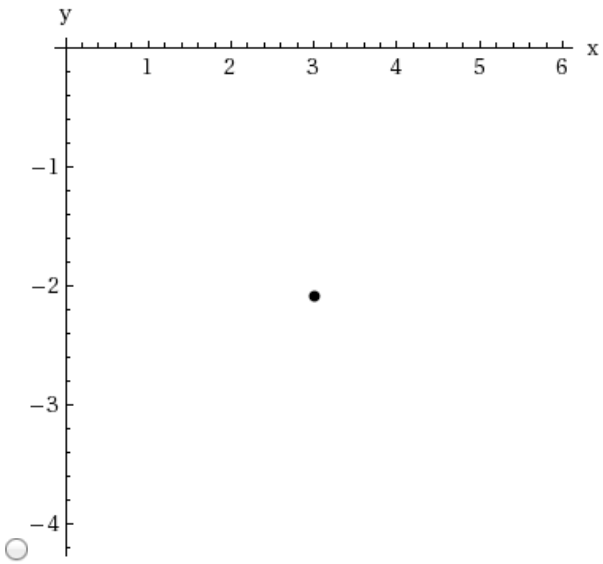


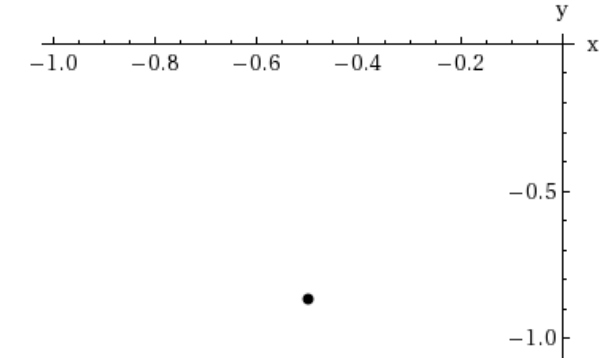
(b) $(3, -2\pi/3)$

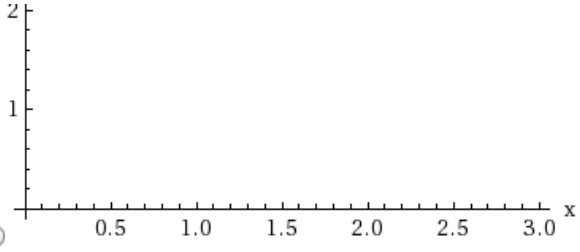
(r, θ) = ( ) $(r > 0)$

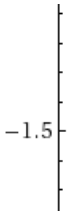
(r, θ) = ( ) $(r < 0)$











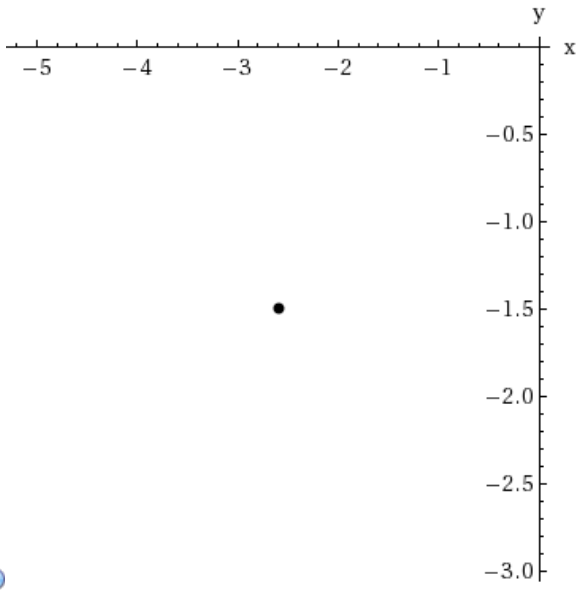
(c) $(-3, \pi/6)$

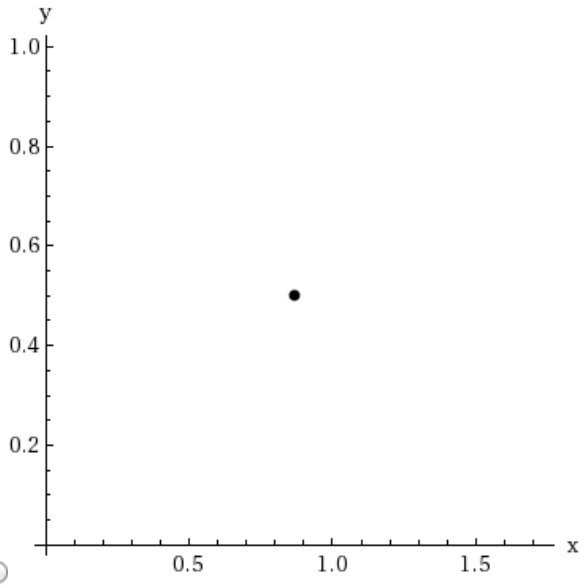
(r, θ) =

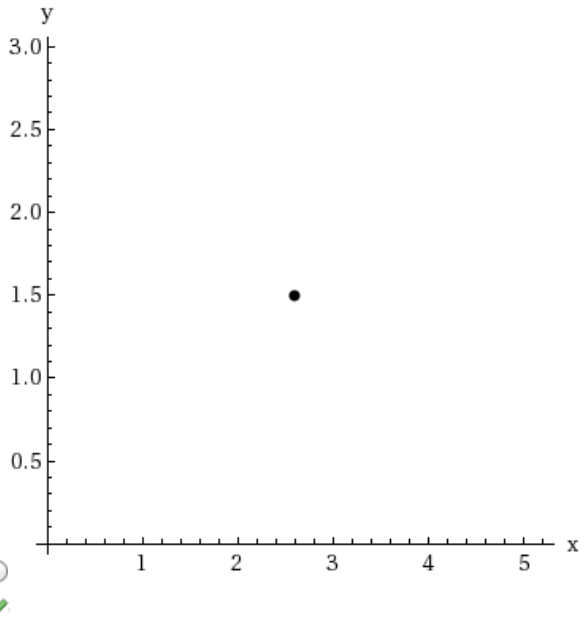
(✔) $(r > 0)$

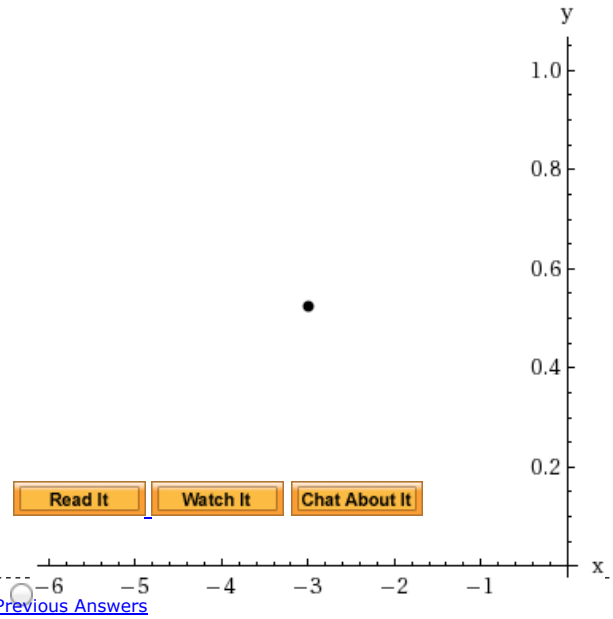
(r, θ) =

(✔) $(r < 0)$









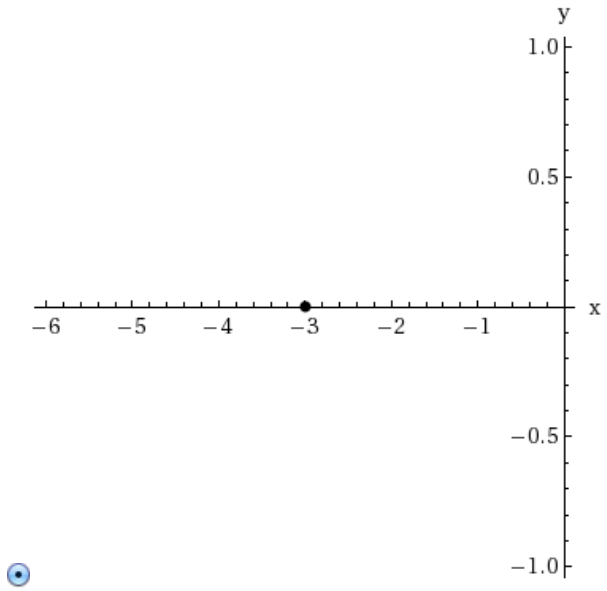
Need Help? Read It Watch It Chat About It

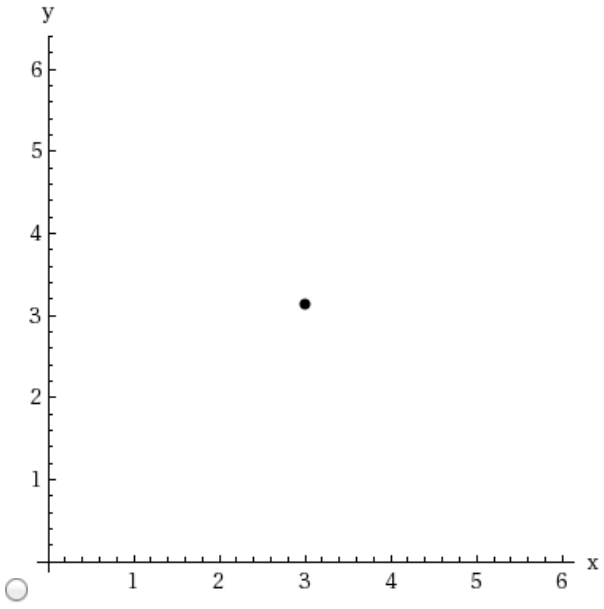
2. 2.22/2.22 points | Previous Answers SCalcET7 10.3.003.

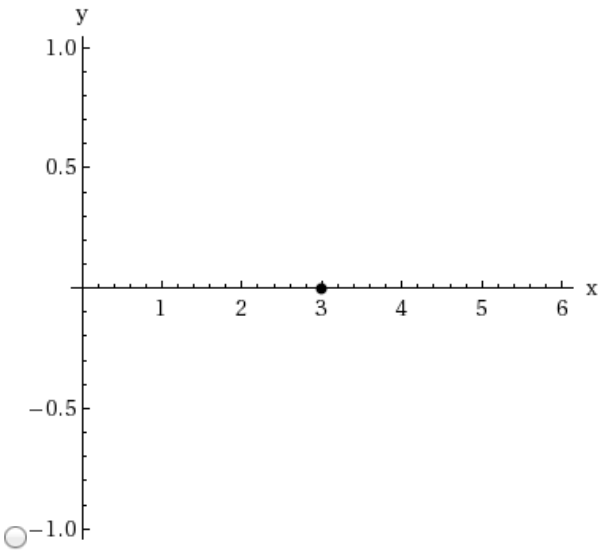
Find the Cartesian coordinates of the given polar coordinates. Then plot the point.

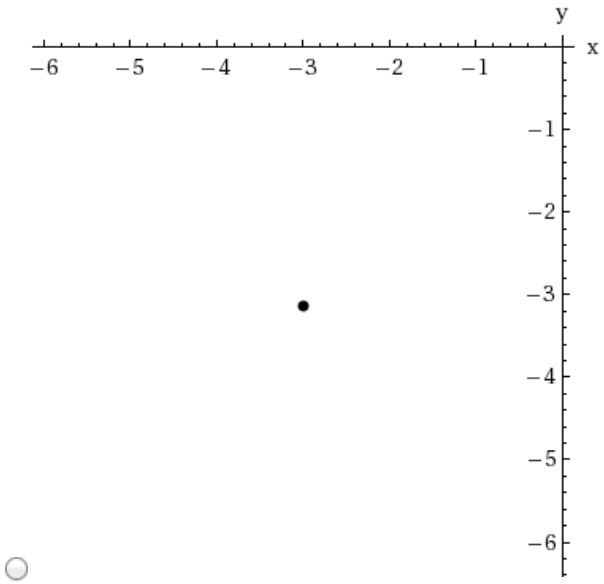
(a) $(3, \pi)$

$(x, y) =$ (✓)



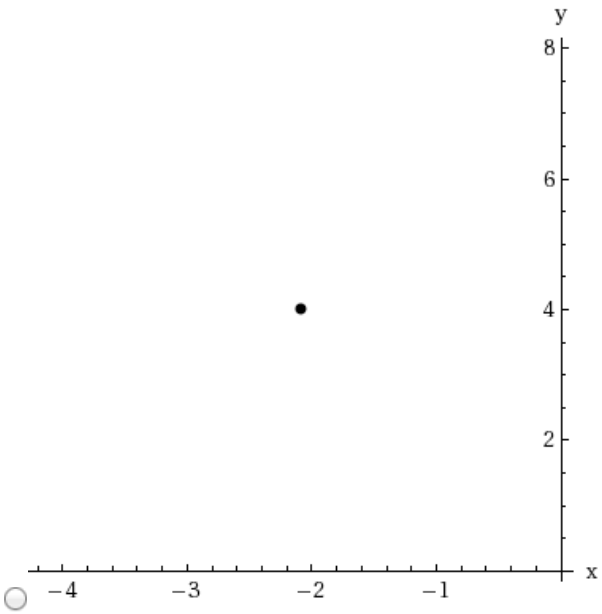


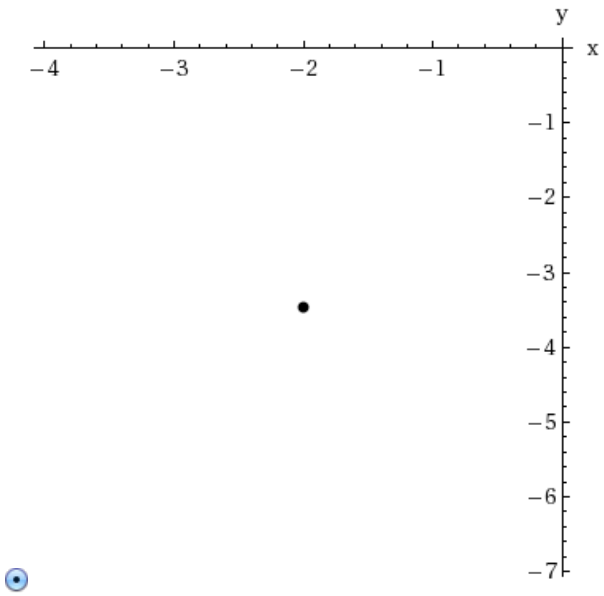

y
1.0
0.5
−0.5
−1.0
1
2
3
4
5
6
x


y
x
−6
−5
−4
−3
−2
−1
−1
−2
−3
−4
−5
−6

(b) $(4, -2\pi/3)$

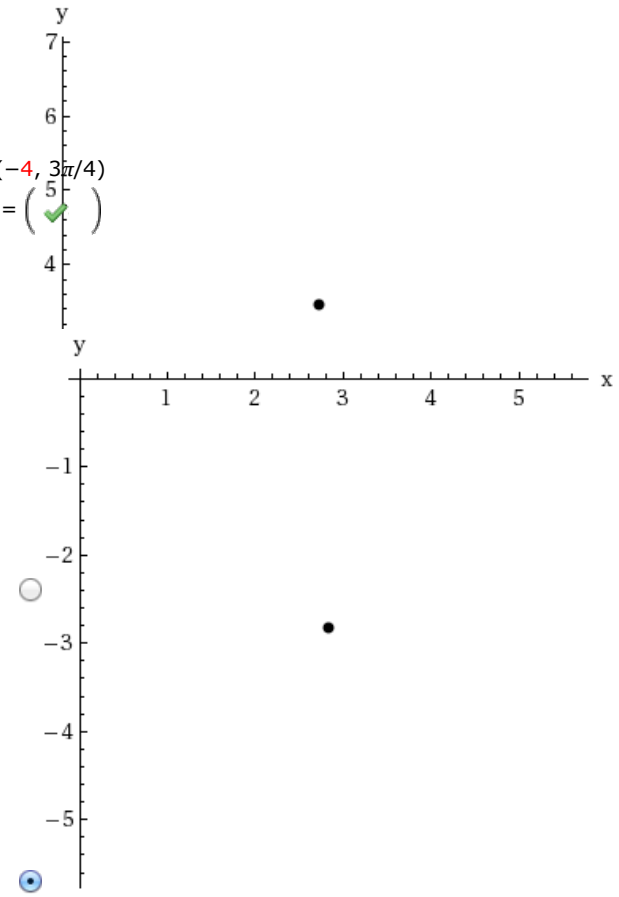
$(x, y) =$ ( )

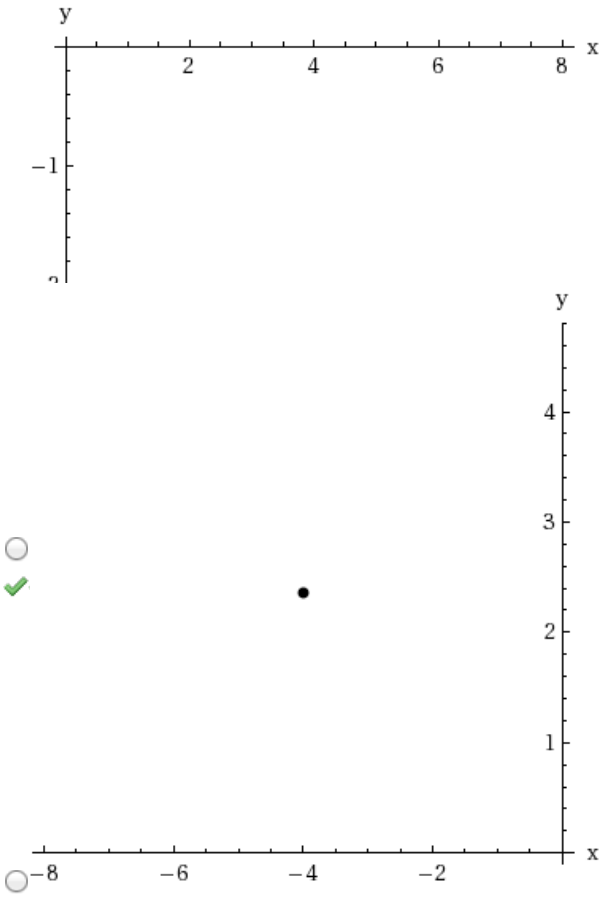

y
8
6
4
2
−4
−3
−2
−1
x

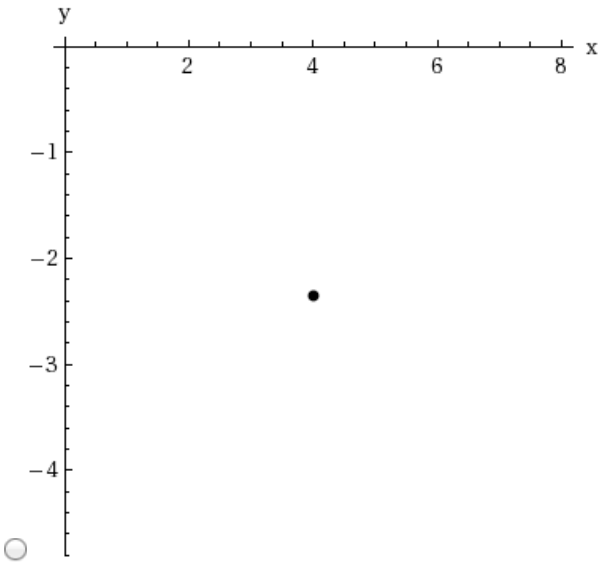

y
x
−4
−3
−2
−1
−1
−2
−3
−4
−5
−6
−7

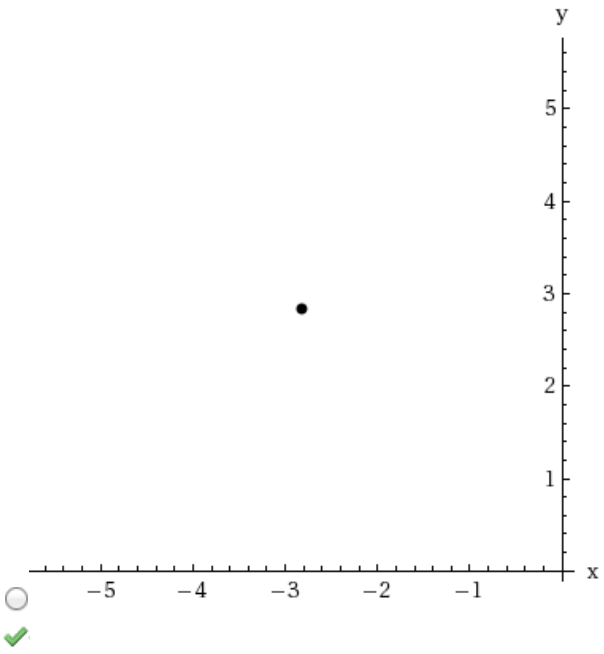
(c) $(-4, 3\pi/4)$

$(x, y) = \left(\quad\right)$









Need Help? Read It | Watch It | Chat About It

---

3. 2.22/2.22 points | Previous Answers SCalcET7 10.3.005.

The Cartesian coordinates of a point are given.

(a) $(2, -2)$

(i) Find polar coordinates (r, θ) of the point, where $r > 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(ii) Find polar coordinates (r, θ) of the point, where $r < 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(b) $(-1, \sqrt{3})$

(i) Find polar coordinates (r, θ) of the point, where $r > 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(ii) Find polar coordinates (r, θ) of the point, where $r < 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

Need Help? Read It | Watch It | Chat About It

---

4. 2.22/2.22 points | Previous Answers SCalcET7 10.3.006.

The Cartesian coordinates of a point are given.

(a) $(2\sqrt{3}, 2)$

(i) Find polar coordinates (r, θ) of the point, where $r > 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(ii) Find polar coordinates (r, θ) of the point, where $r < 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(b) $(2, -3)$

(i) Find polar coordinates (r, θ) of the point, where $r > 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

(ii) Find polar coordinates (r, θ) of the point, where $r < 0$ and $0 \le \theta < 2\pi$.

$(r, \theta) =$ (✔)

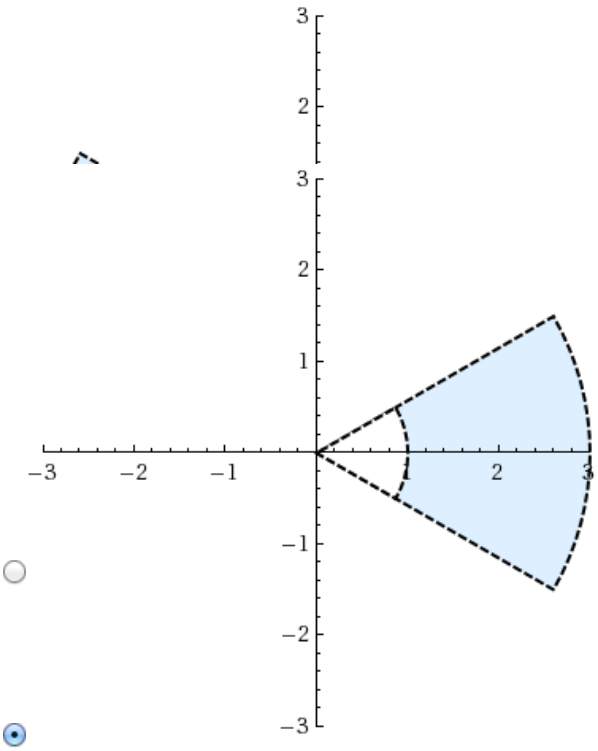
Need Help? Read It | Chat About It

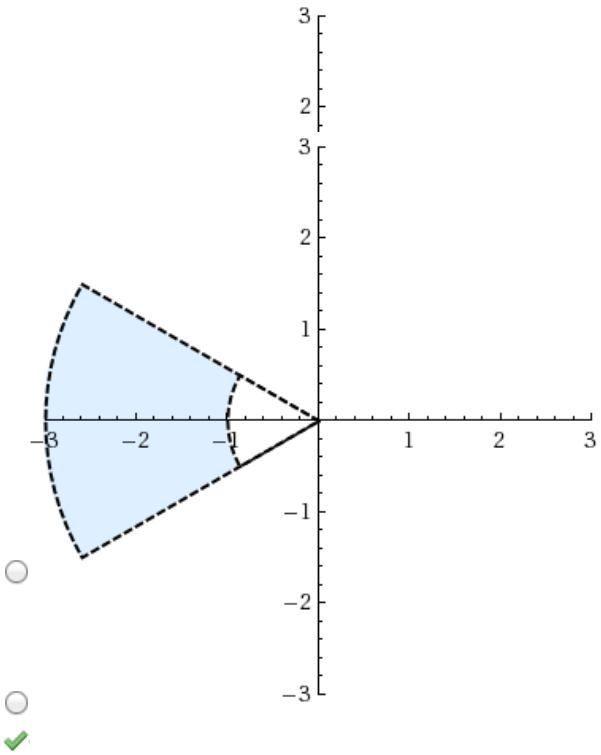
---

5. 2.22/2.22 points | Previous Answers SCalcET7 10.3.011.

Sketch the region in the plane consisting of points whose polar coordinates satisfy the given conditions.

$1 < r < 3, \quad 11\pi/6 \le \theta \le 13\pi/6$



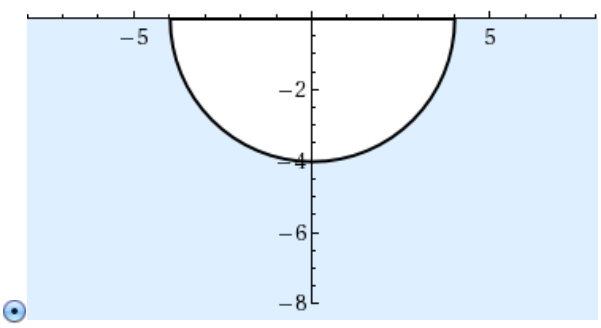


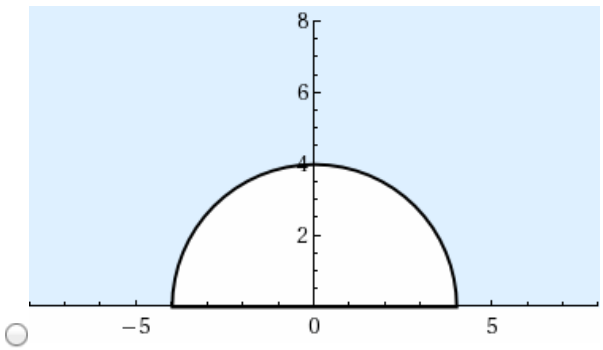
Need Help? Read It Watch It Chat About It

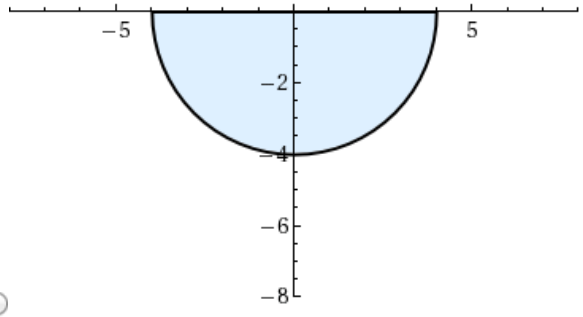
6. 2.22/2.22 points | Previous Answers SCalcET7 10.3.012.

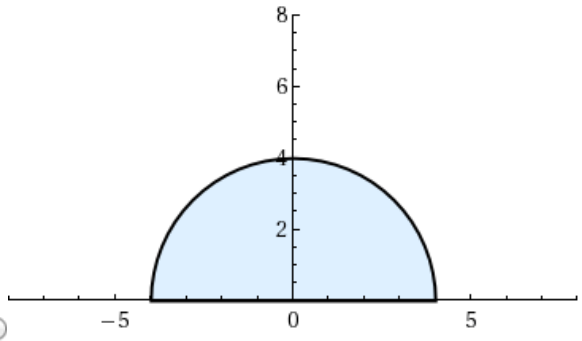
Sketch the region in the plane consisting of points whose polar coordinates satisfy the given conditions.

$r \geq 4, \quad \pi \leq \theta \leq 2\pi$









Need Help? Read It Chat About It

---

7. 2.22/2.22 points | Previous Answers SCalcET7 10.3.019.

Find a Cartesian equation for the curve and identify it.

$r^2 \cos 2\theta = 1$

- (•) hyperbola
- ( ) limaçon
- ( ) parabola
- ( ) ellipse
- ( ) circle

Need Help? Read It Chat About It

---

8. 2.22/2.22 points | Previous Answers SCalcET7 10.3.020.

Find a Cartesian equation for the curve and identify it.

$r = 2 \tan\theta \sec\theta$

- ( ) limaçon
- ( ) line
- ( ) ellipse
- ( ) circle
- (•) parabola

Need Help? Read It Chat About It

---

9. 2.24/2.24 points | Previous Answers SCalcET7 10.3.025.

Find a polar equation for the curve represented by the given Cartesian equation.

$x^2 + y^2 = 8cx$

Need Help? Read It Watch It Chat About It