

1. All topics from the parametric Quiz

<p>2. Convert to a rectangular coordinate. Round to the hundredths place. $(-2, 100^\circ)$</p> <p>$(.35, -1.97)$</p>	<p>3. Convert to a rectangular coordinate. State the exact value. $(3, \frac{5\pi}{3})$</p> <p>$(3 \cos \frac{5\pi}{3}, 3 \sin \frac{5\pi}{3})$ $(\frac{3}{2}, -\frac{3\sqrt{3}}{2})$</p>
<p>4. Convert to polar. Name in 4 different ways $(-2, 4)$</p> <p>$(2\sqrt{5}, 116.6)$ $(-2\sqrt{5}, 296)$ $(2\sqrt{5}, 213)$ $(-2\sqrt{5}, -63)$</p>	<p>5. Convert to polar. Name in 4 different ways $(3, -5)$</p> <p>$(\sqrt{34}, 301)$ $(-\sqrt{34}, 121)$ $(\sqrt{34}, -59)$ $(-\sqrt{34}, -239)$</p>

Convert to a rectangular equation.

<p>6. $r = 4 \cos \theta + 5 \sin \theta$ Answer in Standard Form.</p> <p>$x^2 + y^2 = 4x + 5y$ $(x-2)^2 + (y-2.5)^2 = 10.25$</p>	<p>7. $r = 6 \sec \theta$</p> <p>$x = 6$</p>
<p>8. $r = 3$</p> <p>$x^2 + y^2 = 9$</p>	<p>9. $\theta = \frac{\pi}{4}$</p> <p>$y = x$</p>
<p>10. $r = -2 \sin \theta$</p> <p>$x^2 + y^2 + 2y = 0$ $x^2 + (y+1)^2 = 1$</p>	<p>11. $r = 2 \cos \theta$</p> <p>$x^2 + y^2 = 2x$ $(x-1)^2 + y^2 = 1$</p>

Convert to a polar equation.

<p>12. $y = 7$</p> <p>$r = 7 \csc \theta$</p>	<p>13. $5x + 2y = 4$</p> <p>$r = \frac{4}{5 \cos \theta + 2 \sin \theta}$</p>	<p>14. $x^2 + y^2 - 5y = 0$</p> <p>$r^2 = 5r \sin \theta$ $r = 5 \sin \theta$</p>
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For 15-16 use $r = 5\cos(3\theta)$

15. State the number of petals

3

16. State the length of each petal.

5

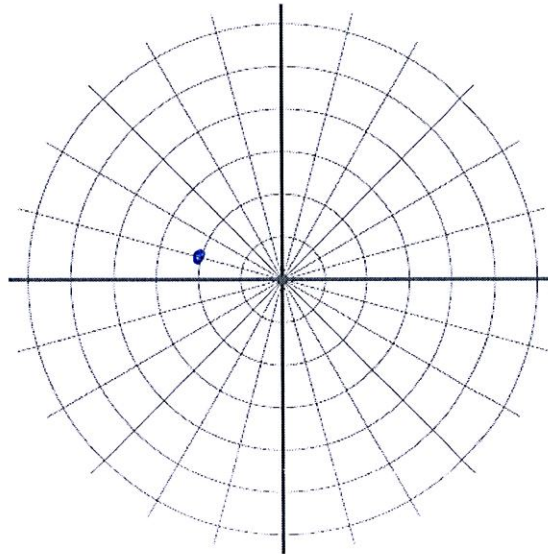
17. State three additional names for the ordered pair $(2, -200^\circ)$ such that $-360^\circ < \theta < 360^\circ$

$(2, 160)$

$(-2, 340)$

$(-2, -20)$

18. Graph number 17.



19. John throws a javelin from a height of 4 feet with an initial velocity of 65 feet per second at an angle of 45° with the horizontal. Write parametric equations to represent the path of the javelin.

$$x = 65 \cos(45)T$$

$$y = -16T^2 + 65 \sin(45)T + 4$$

20. After 0.4 seconds, how far has the javelin traveled horizontally and vertically?

$$H \rightarrow 18.38 \text{ ft}$$

$$V \rightarrow 19.8 \text{ ft}$$

21. Explain why $r = a \sec \theta$ is a polar form of the line $x = a$

$$r \cos \theta = a$$

$$r = a \frac{1}{\cos \theta}$$

$$r = a \sec \theta$$

22. Graph $r = 4 \sin 2\theta$

ROSE CURVE
4 PETALES
LENGTH 4

23. Let $y = mx + b$ Prove that $r = \frac{b}{\sin \theta - m \cos \theta}$

$$r(\sin \theta - m \cos \theta) = b$$

$$r \sin \theta - m r \cos \theta = b$$

$$y - mx = b$$

$$y = mx + b$$