TRASHKETBALL!

1 2 3 4 5

6 7 8 9 10

11 12

GameBoard

#1: Consider the parametric equations shown below. Find the rectangular equation by eliminating the parameter.

Home

$$x = 5t, y = t^3 - 4$$

$$y = (x/5)^3 - 4$$

Answer

1

#7: Find two sets of polar coordinates for the point where theta is between 0 and 2pi.

Home

(-6, 8)

(10, 2.214); (-10, 5.356)

Answer

7

#5: Two principals' cars follow the parametric equations given below, where t is given in seconds. Find the time (t) and location (x,y) of the crash.

Home

BEER'S CAR	BUCK'S CAR
$x = 3t$	$x = 2t + 1$
$y = 4t + 2$	$y = 5t + 1$

The two principals collide at t=1 seconds; their position is (3,6) at the time of the collision.

Answer

13

#2: Determine what quadrant the point is in; then, find its rectangular form.

$$(-1, \frac{5\pi}{4})$$

$$(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$$

Answer

2

#8: Find two sets of polar coordinates for the point where theta is between 0 and 2pi.

$$(-5,12)$$

$$(13, 1.966)$$
$$(-13, 5.108)$$

Answer

8

#6: Convert the rectangular equation to polar form.

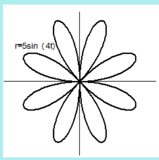
$$3x - y + 4 = 0$$

$$r = \frac{-4}{3\cos\theta - \sin\theta}$$

Answer

14

#3: State the type(s) of symmetry (with respect to θ = π/2, the polar axis, and/or the pole) illustrated by the graph.



swrt θ = π/2, the polar axis, and the pole

Answer

3

#9: Find the maximum value of |r|.

$$r = 13 + 4\cos\theta$$

Max value of |r| is 17.

Answer

9

#10: Convert the polar equation to rectangular form.

$$r = 3\cos\theta$$

$$x^2 + y^2 = 3x$$

Answer

15

#4: Find the zeros of r within a single tracing.

$$r = 8 + 16\sin\theta$$

$$\theta = \frac{7\pi}{6}, \frac{11\pi}{6}$$

Answer

4

#11: Find the center and radius of the circle:

$$x^2+(y-7)^2=23$$

Center: (0, 7)

Radius: √23

Answer

4

#12: Find the standard form of the ellipse centered at the origin with the given information:

Vertices: (0, -8); (0, 8)

Foci: (0, -4); (0, 4)

$$\frac{x^2}{48}+\frac{y^2}{64}=1$$

Answer

4

Dec 3-4:07 PM

JEOPARDY.mp3