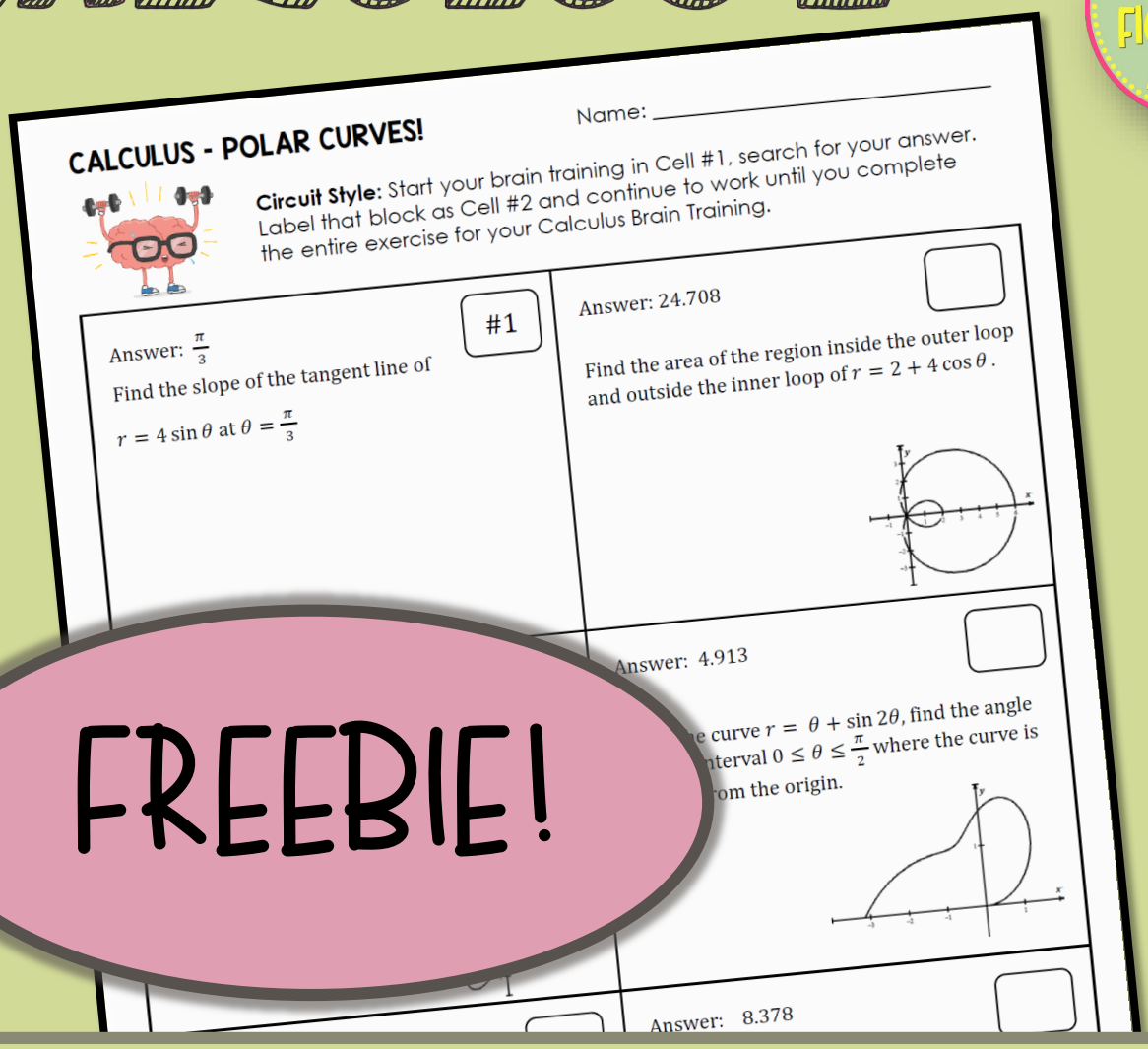
CALCULUS 2



FREEBIE!

Polar Curves Circuit-Style Training

CALCULUS - POLAR CURVES!

Name: _____

Circuit Style: Start your brain training in Cell #1, search for your answer. Label that block as Cell #2 and continue to work until you complete the entire exercise for your Calculus Brain Training.

#1

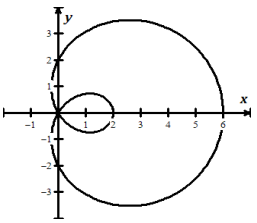
Answer: $\frac{\pi}{3}$

Find the slope of the tangent line of

$r = 4\sin\theta$ at $\theta = \frac{\pi}{3}$

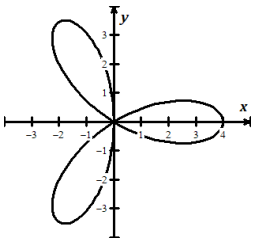
Answer: 24.708

Find the area of the region inside the outer loop and outside the inner loop of $r = 2 + 4\cos\theta$.



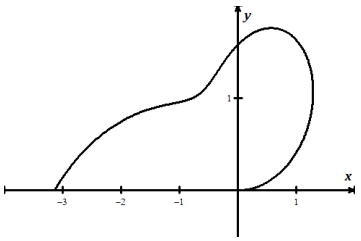
Answer: $r = 6\cos\theta$

Find the area enclosed by two loops of the polar curve $r = 4\cos 3\theta$.



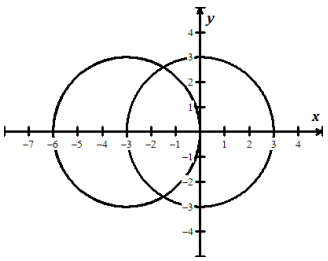
Answer: 4.913

Given the curve $r = \theta + \sin 2\theta$, find the angle θ in the interval $0 \le \theta \le \frac{\pi}{2}$ where the curve is farthest from the origin.



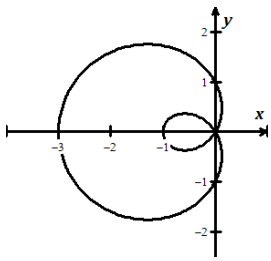
Answer: $\frac{\pi}{4}, \frac{3\pi}{4}$

Find the area inside $r = -6\cos\theta$ and outside $r = 3$.



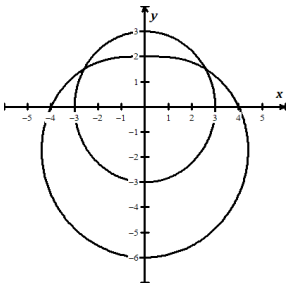
Answer: 8.378

Find the area of the region inside the outer loop of $r = 1 - 2\cos\theta$.



Answer: 4.443

Find the area inside the graph of $r = 3$ and also inside the graph of $r = 4 - 2\sin\theta$.



Answer: $-\sqrt{3}$

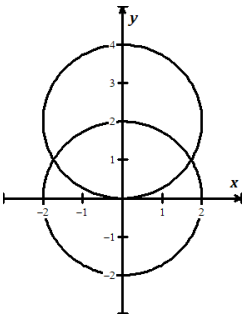
Find the value(s) of θ on the curve: $r = 3\cos\theta$ where the tangent line is horizontal over $0 \le \theta \le \pi$.

Answer: $x^2 + (y-3)^2 = 9$

Write an equivalent polar equation for $(x-3)^2 + y^2 = 9$

Answer: 8.881

Find the area of the common interior of $r = 2$ and $r = 4\sin\theta$.



Answer: 17.219

Find the length of the polar curve, $0 \le \theta \le \frac{\pi}{2}$
$r = 2\sin\theta + 2\cos\theta$

Answer: 33.351

Given $r^2 = 6r\sin\theta$, write an equivalent rectangular equation.

CALCULUS - POLAR CURVES!

Name: _____

Circuit Style: Start your brain training in Cell #1, search for your answer. Label that block as Cell #2 and continue to work until you complete the entire exercise for your Calculus Brain Training.

Answer: $\frac{\pi}{3}$

#1

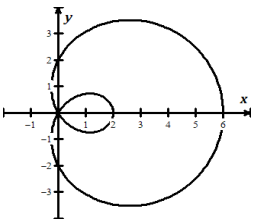
Find the slope of the tangent line of

$r = 4\sin\theta$ at $\theta = \frac{\pi}{3}$

Answer: 24.708

#6

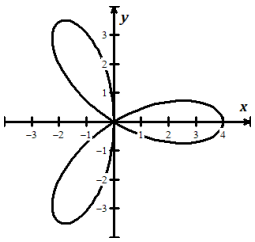
Find the area of the region inside the outer loop and outside the inner loop of $r = 2 + 4\cos\theta$.



Answer: $r = 6\cos\theta$

#9

Find the area enclosed by two loops of the polar curve $r = 4\cos 3\theta$.



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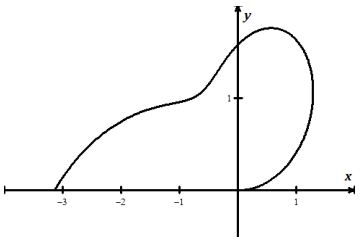
#12

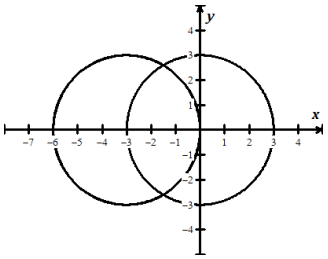
Given the curve $r = \theta + \sin 2\theta$, find the angle θ in the interval $0 \le \theta \le \frac{\pi}{2}$ where the curve is farthest from the origin.



Answer: $\frac{\pi}{4}, \frac{3\pi}{4}$

#3

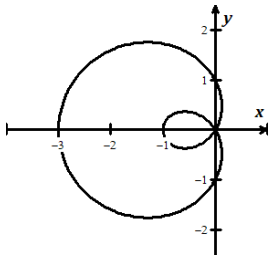
Find the area inside $r = -6\cos\theta$ and outside $r = 3$.



Answer: 8.378

#10

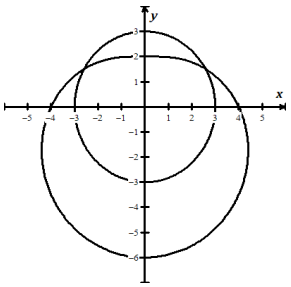
Find the area of the region inside the outer loop of $r = 1 - 2\cos\theta$.



Answer: 4.443

#5

Find the area inside the graph of $r = 3$ and also inside the graph of $r = 4 - 2\sin\theta$.



Answer: $-\sqrt{3}$

#2

Find the value(s) of θ on the curve: r = 3 cos θ where the tangent line is horizontal over $0 \le \theta \le \pi$.

Answer: $x^2 + (y-3)^2 = 9$

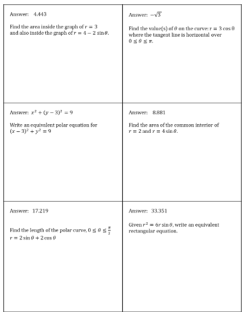
#8

Write an equivalent polar equation for $(x-3)^2 + y^2 = 9$

Answer: 8.881

#11

Find the area of the common interior of $r = 2$ and $r = 4\sin\theta$.



Answer: 17.219

#4

Find the length of the polar curve, $0 \le \theta \le \frac{\pi}{2}$
$r = 2\sin\theta + 2\cos\theta$

Answer: 33.351

#7

Given $r^2 = 6r\sin\theta$, write an equivalent rectangular equation.

FLAMINGO MATH

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