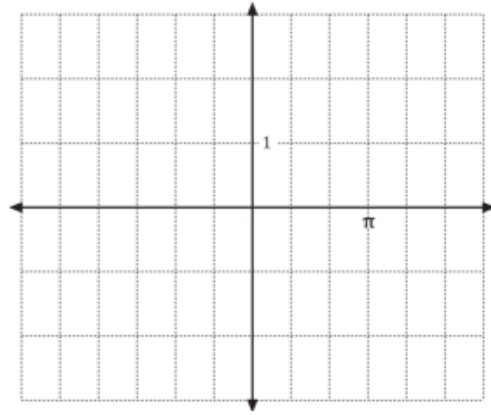
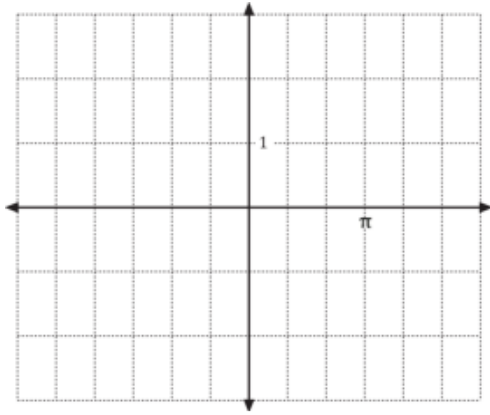


PreCalculus Worksheet

Your Name: _____

Graph the function. Then compute its period.

A. $f(x) = \cos \pi x + 2\cos \frac{2\pi}{3} x$ B. $g(x) = 3\sin \frac{\pi}{4} x + \sin \frac{\pi}{3} x$



period: _____	period: _____
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- C. A mouse sits 8 inches from the center of a record that is spinning at 45rpm. At $t=0$ seconds the mouse was at the right edge of the record.

Relative to the center of the record, what is the mouse's position in cartesian coordinates when t is 7.45 seconds?

What is the mouse's position in polar coordinates at this same time?

What is the angular velocity of the mouse?

What is the linear velocity of the mouse?

D. Jupiter orbits the sun in an essentially circular path at a distance from the sun of 495 million miles. It takes Jupiter 11.86 earth years to go around the sun once.

Viewing its orbit from above the orbital plane of the solar system, Jupiter appears to be at the top of its circular orbit on January 1. In cartesian coordinates relative to the sun, where is Jupiter on February 26th?

What is Jupiter's position in polar coordinates on this same date?

What is Jupiter's angular velocity?

What is Jupiter's linear velocity?

The length of a day on Jupiter is 9.8 hours. If on January 1st I am standing (floating?) at the point on Jupiter's surface furthest from the sun, what will be my precise location in cartesian coordinates on March 19th?
