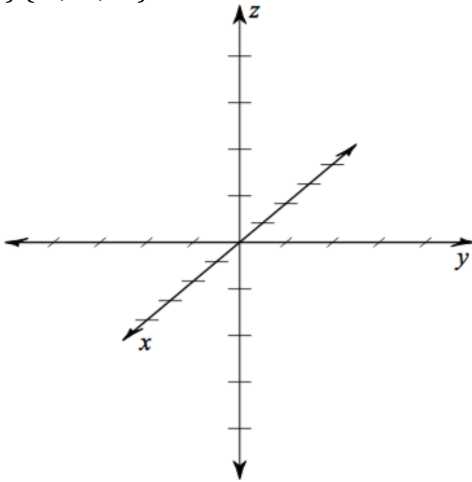


Unit 13 Review: Coordinate Systems

NAME: _____

Directions: Plot each point. Show either box or arrow marks.

1) $(-3, -1, -2)$



Directions: Find the midpoint and distance of each. Round to nearest tenth.

2) $(-1, 10, -5)$ and $(3, 7, -3)$

Midpoint:

Distance:

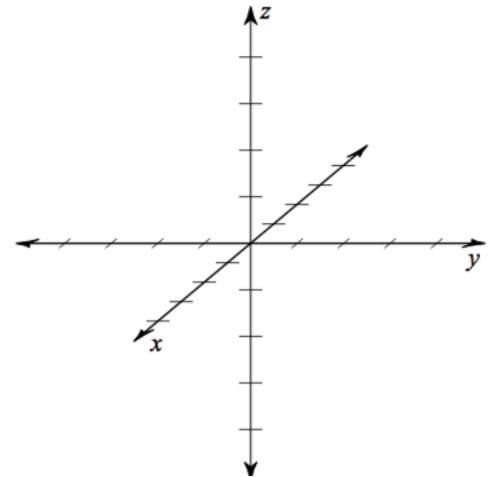
Directions: Find the intercepts and graph the equation.

3) $-2x + 4y - 8z = 8$

x-intercept:

y-intercept:

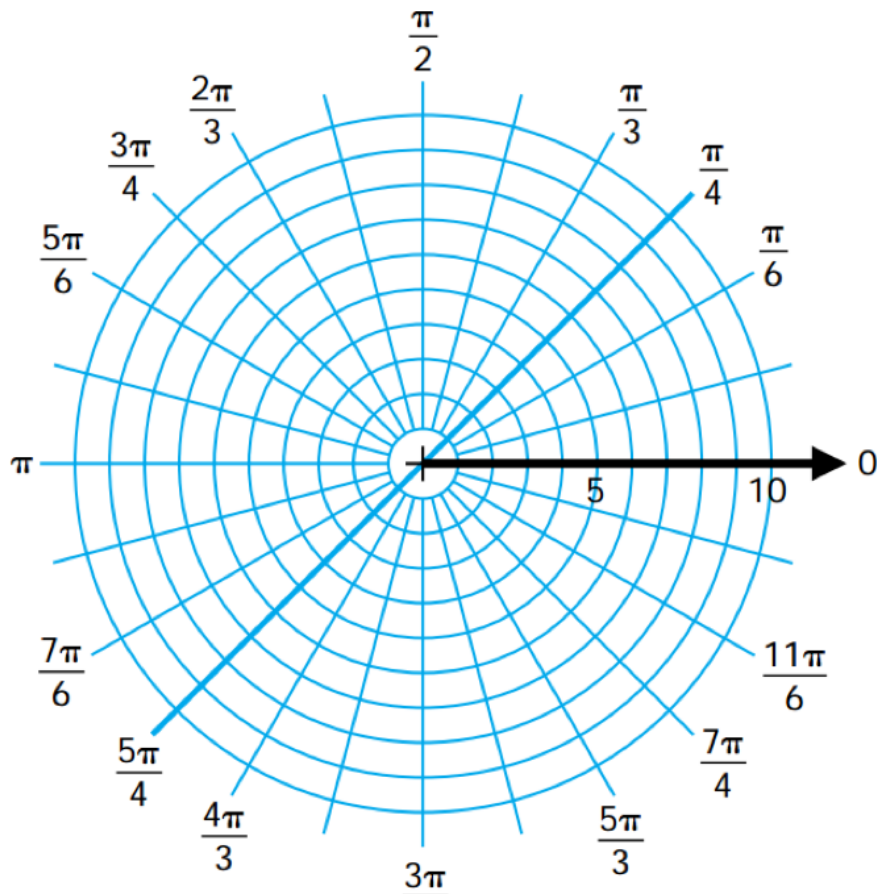
z-intercept:



Directions: Complete the table and plot the graph. (round to 2 decimals) (5 pts)

4) $r = 6 + \cos \theta$

θ	r
0	
$\frac{\pi}{4}$	
$\frac{\pi}{2}$	
$\frac{3\pi}{4}$	
π	
$\frac{5\pi}{4}$	
$\frac{3\pi}{2}$	
$\frac{7\pi}{4}$	



Directions: Convert the following from Polar to Rectangular (round to 3 decimal places). (3 pts each)	Directions: Convert the following from Rectangular to Polar where $r \geq 0$, and $0^\circ \leq \theta \leq 360^\circ$ (round to nearest tenth of a degree) (3 pts)
5) $(6, \frac{11\pi}{6})$	6) (6, -4)

Unit 13 Application and Extension

1) Brust (x), Bean (y) and Kelly (z) love going eating wings. They go to their favorite wing restaurant that offers them a deal. If they can eat 60 wings in 10 minutes they will eat for free. Brust can eat 2.5 wings a minute, Bean can eat 1.5 a minute and Kelly can eat 6 a minute.

a) Write an equation in terms of x, y and z for the above situation.

b) Write the above equation in terms of the number of minutes Bean eats wings. (Solve for y).

c) If Kelly only eats for 4 minutes and Brust eats for 8 minutes. How long does Bean need to eat to finish the 60 wings.

Directions: Use your graphing calculator to sketch each graph and answer the question. (2pts each)

2) $r = 6 \sin 2\theta$

What happens to the graph when you change the 2 to a 4?

