$150° \cdot \frac{\pi}{180} =$

Pick up a sheet of polar graph paper for HW.

HW 9-2 tonight: Work only in radians. If degrees are given, convert to radians by multiplying by pi/180.
#s 2, 4, 7, 10 graph on polar graph paper and all on **one grid.** Label each point.
Omit #52.

Do the warm-up as I check homework.

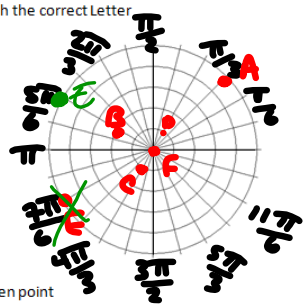
Feb 16-7:46 AM

Polar Coordinates: Work may be done on this sheet

1) Plot the following points in a polar coordinate system: Label with the correct Letter

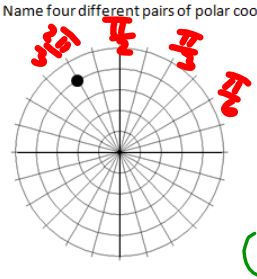
$A(5, \frac{\pi}{3})$ $B(-2, \frac{-\pi}{6})$ $C(1, \frac{-2\pi}{3})$ $D(-1, \frac{5\pi}{4})$

$E(-5, \frac{11\pi}{6})$ $F(0, \pi)$



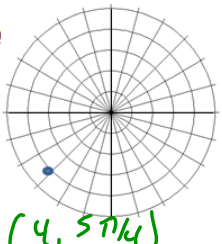
2) Name four different pairs of polar coordinates that represent the given point

a)



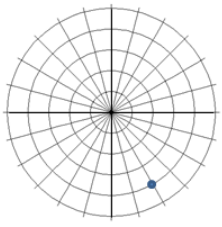
$(4, \frac{2\pi}{3})$
$(4, -\frac{4\pi}{3})$
$(-4, -\frac{\pi}{3})$
$(-4, \frac{5\pi}{3})$

b)



(b)
$(4, 5\pi/4)$
$(4, -3\pi/4)$
$(-4, \pi/4)$
$(-4, -7\pi/4)$

c)

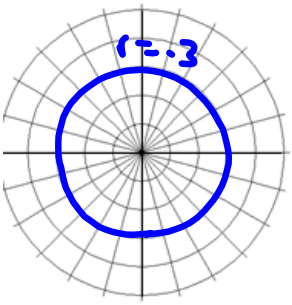


$(4, \frac{5\pi}{3})$
$(4, -\frac{\pi}{3})$
$(-4, -\frac{4\pi}{3})$
$(-4, \frac{2\pi}{3})$

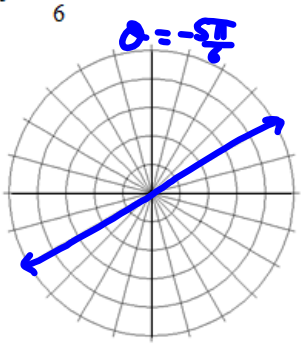
Feb 7-12:28 PM

3) Graph each polar equation:

a) $r = -3$



b) $\theta = \frac{-5\pi}{6}$

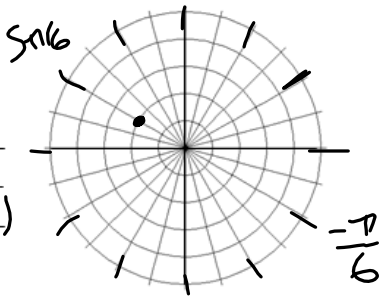


Feb 7-12:29 PM

Warm-Up. Plot the point and name it 4 ways (3 additional)

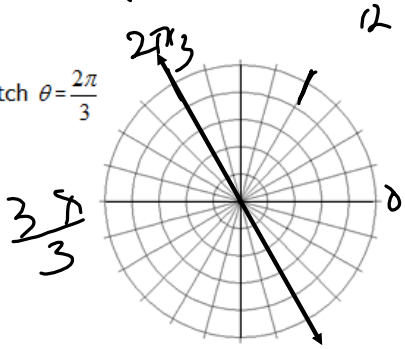
$\left(-2, -\frac{\pi}{6}\right)$

$(-2, 11\pi/6)$
$(2, 5\pi/6)$
$(2, -7\pi/6)$

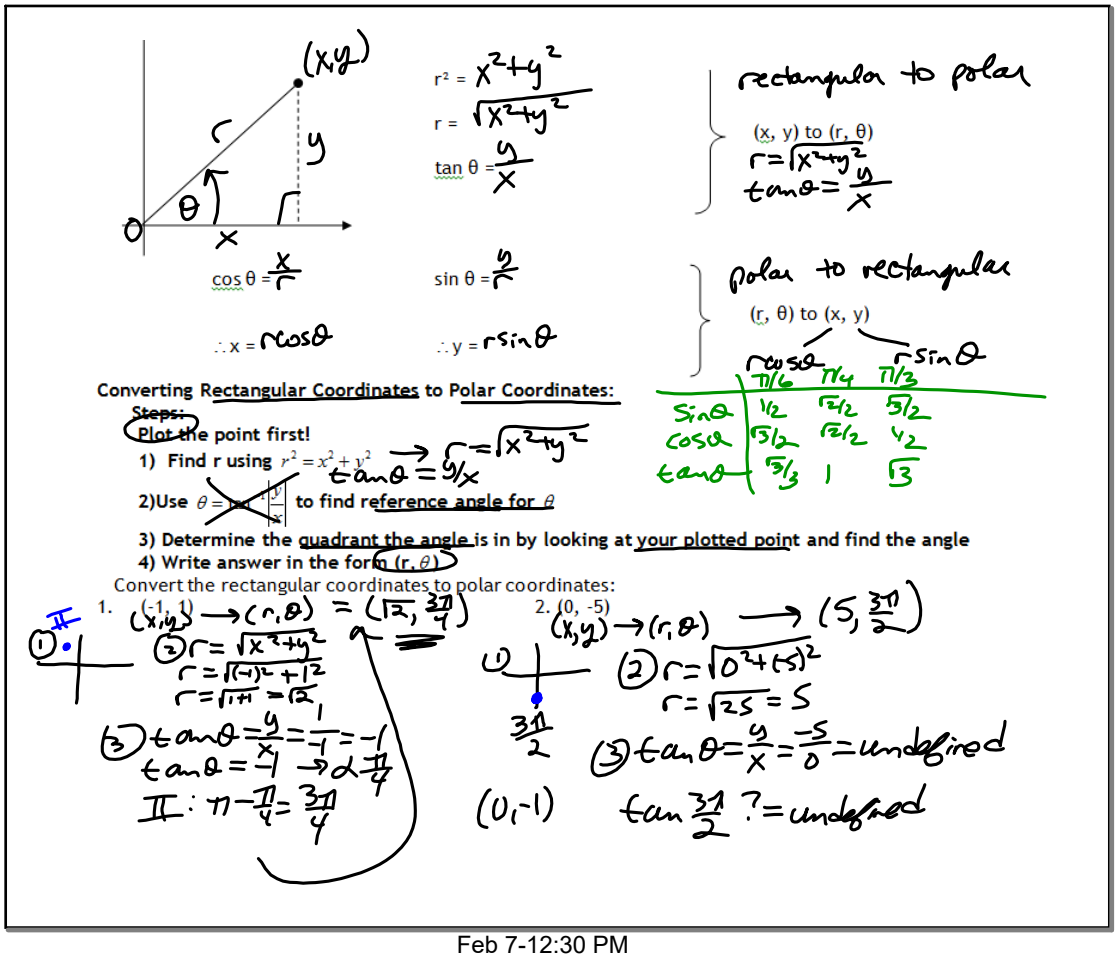


Sketch $\theta = \frac{2\pi}{3}$

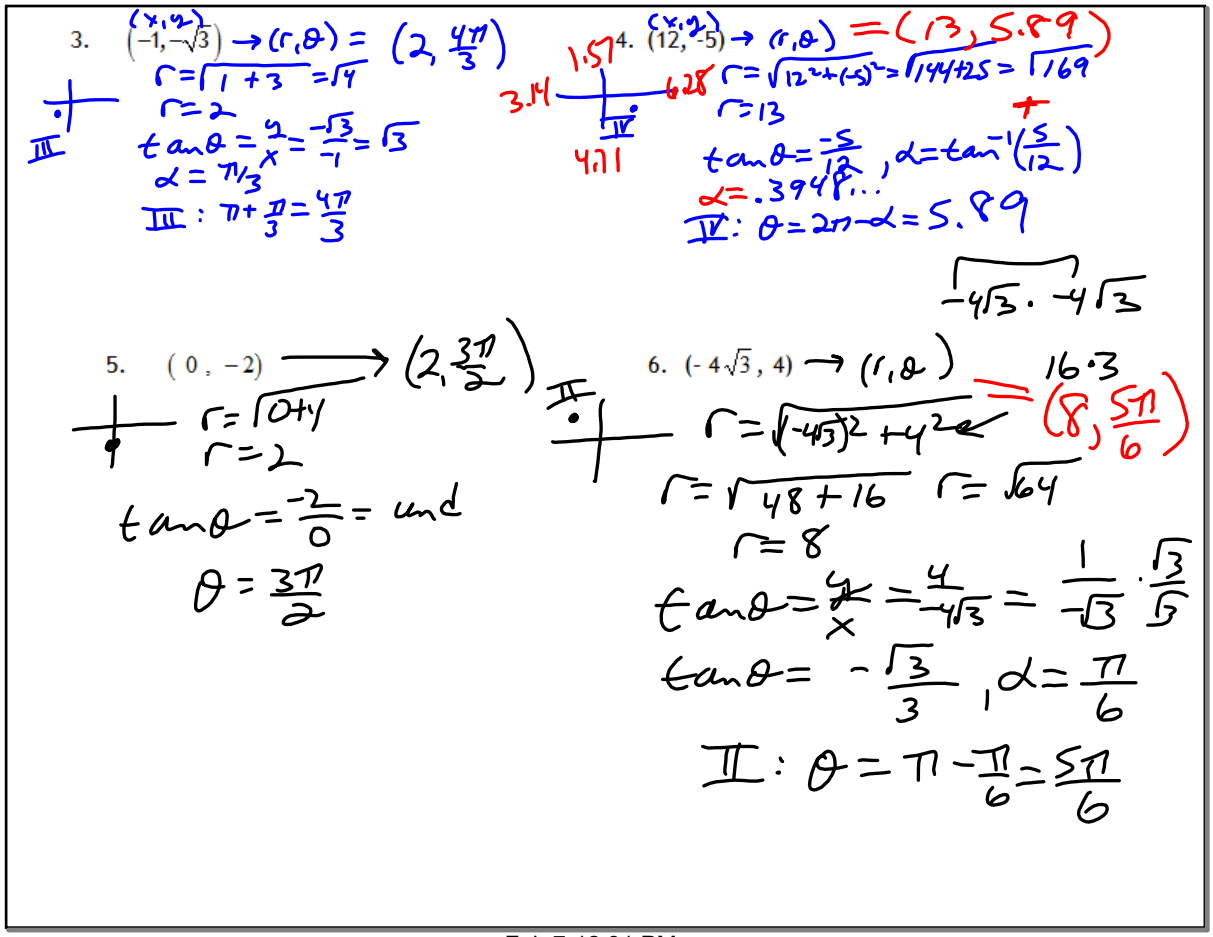
$12 \div 3 = 4$ $\quad \frac{4\pi}{12} = \frac{\pi}{3}$



Feb 7-12:30 PM



Feb 7-12:30 PM



Feb 7-12:31 PM

Rectangular to Polar Form equations:

REPLACEMENTS: $x = r\cos\theta$ $y = r\sin\theta$ $x^2 + y^2 = r^2$

x, y r, θ

Convert the equation from Rectangular Form to Polar Form

1) $x^2 + y^2 = 6$

(a) $r^2 = 6$

$r = \pm\sqrt{6}$

(b) $x = 12$

$r\cos\theta = 12$

$r = \frac{12}{\cos\theta} = 12 \cdot \frac{1}{\cos\theta}$

$r = 12\sec\theta$

2) $x^2 + y^2 - 4y = 0$

(a) $r^2 - 4r\sin\theta = 0$

$\frac{r^2}{r} = \frac{4r\sin\theta}{r}$

$r = 4\sin\theta$

(b) $y = -5$

$r\sin\theta = -5$

$r = \frac{-5}{\sin\theta}$

$r = -5\csc\theta$

Feb 7-12:31 PM

Feb 11-5:34 PM