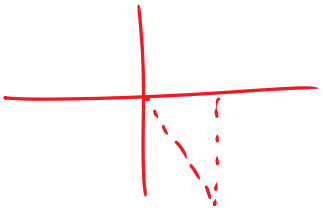
(1) Convert to polars: $(3,-7)$



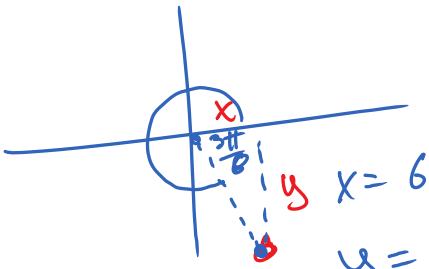
293.13°

$(\sqrt{58}, -66.8^\circ)$

(2) Convert to Rectangular: $(6, \frac{13\pi}{8})$

$(2.34, -5.54)$

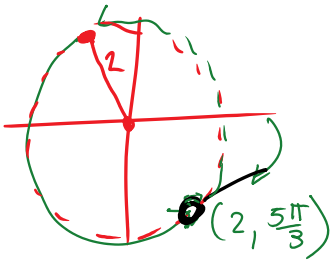
$\frac{13\pi}{8} \cdot \frac{180}{\pi}$



$x = 6 \cdot \cos\frac{5\pi}{8}$

$y = 6 \cdot \sin\frac{3\pi}{8}$

(3) Find all polars for point: $(2, \frac{2\pi}{3})$



A) $0 \le \theta \le 2\pi$

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

$\pm\pi$

B) All

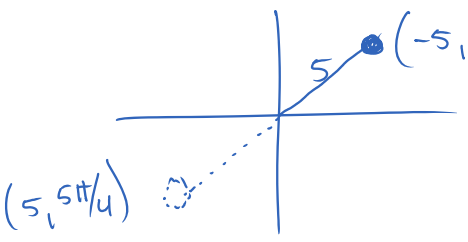
$$\left(2, \frac{2\pi}{3} + 2\pi \cdot n\right) \quad \left(-2, \frac{5\pi}{3} + 2\pi \cdot n\right)$$

(r, θ) $\quad$ $(-r, \theta + \pi + 2\pi n)$

$(r, \theta + 2\pi n)$

general Form

(4) Find All polars: $(-5, \frac{5\pi}{4})$ $0 \le \theta \le 2\pi$



$(-5, 5\pi/4)$

$(5, 5\pi/4)$

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

$*(5, \frac{\pi}{4})$ $\Rightarrow$

All

$$\left(-5, \frac{5\pi}{4} + 2\pi n\right)$$

$$\left(5, \frac{\pi}{4} + 2\pi n\right)$$