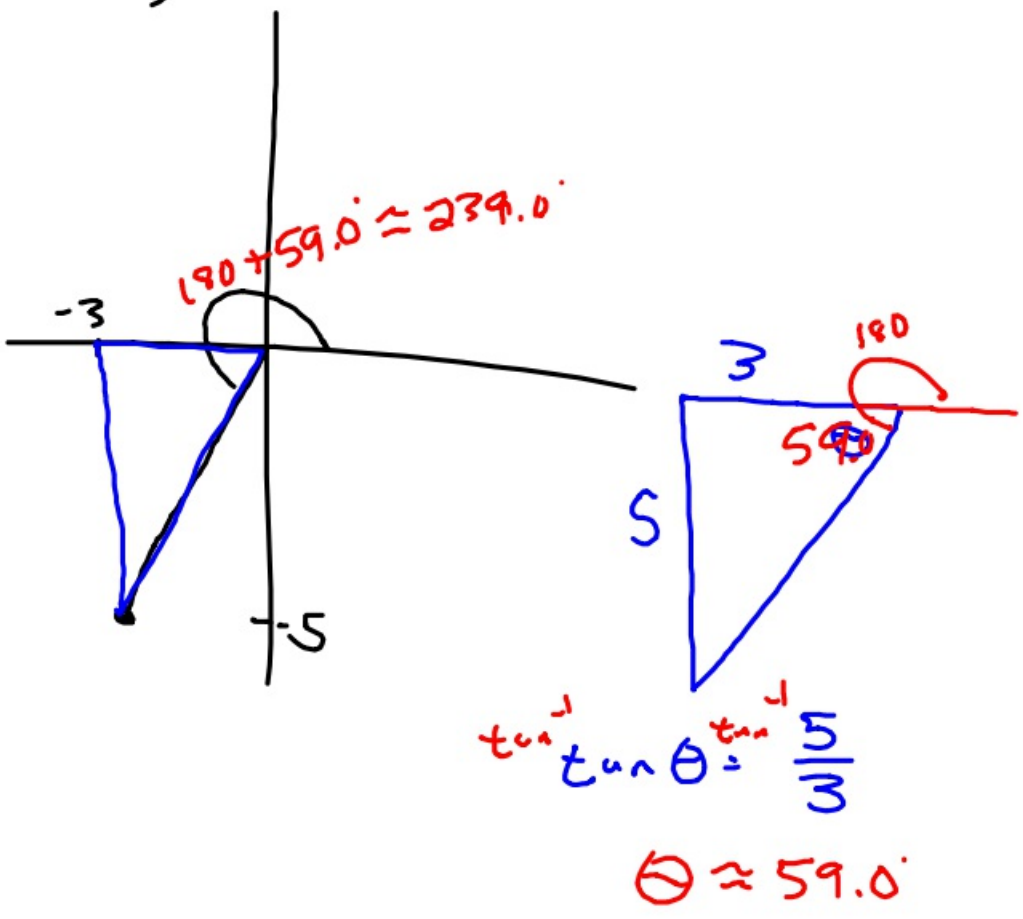
3-7-18 1st Trig

Test tomorrow

① Are $\frac{3\pi}{5}$ and $\frac{19\pi}{5}$ coterminal.

$$\frac{19\pi}{5} - \frac{3\pi}{5} = \frac{16\pi}{5} = 3.2\pi$$

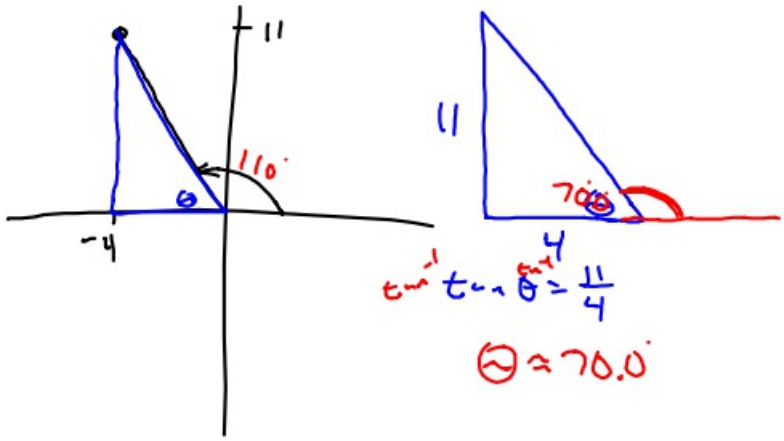
② $(-3, -5)$



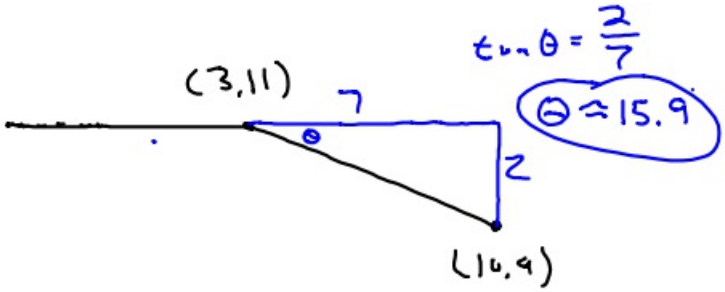
$\tan^{-1} \tan\theta = \tan^{-1} \frac{5}{3}$

$\theta \approx 59.0°$

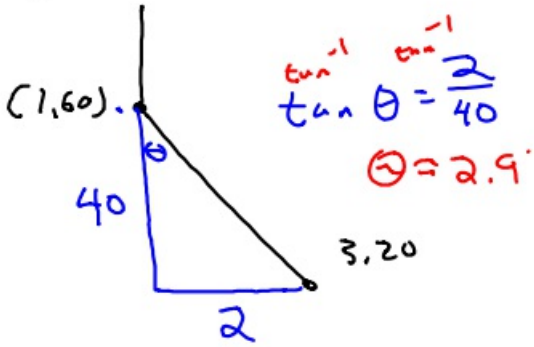
③ $(-4, 11)$



④ An airplane is flying East. At (3,11) it turns South to go to (10, 9). How many degrees does it turn?



⑤ An airplane is flying due South. At (1,60) it turns East to go to (3, 20). How many degrees does it turn?



(6) In what quadrant is $8,140^\circ$?

$$\frac{8,140^\circ}{360} = 22.6$$

$$22 \times 360 = 7,920$$

$$\begin{array}{r} 8,140 \\ -\ 7920 \\ \hline 220 \end{array}$$

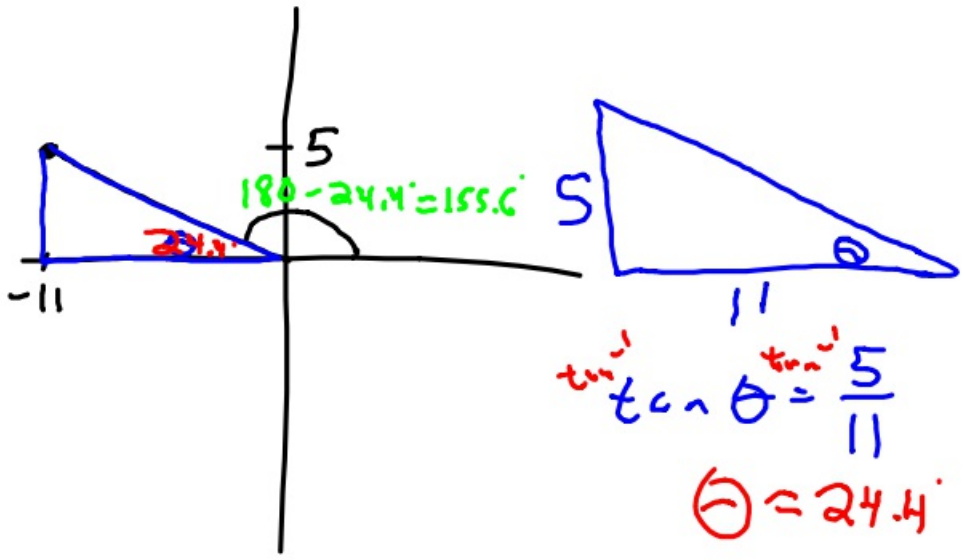
III

(7) In degrees what is $\frac{3\pi}{5}$

$$\frac{3\pi}{5} \cdot \frac{180^\circ}{\pi} = \frac{540}{5} = 108^\circ$$

3-7-18 3rd Trig

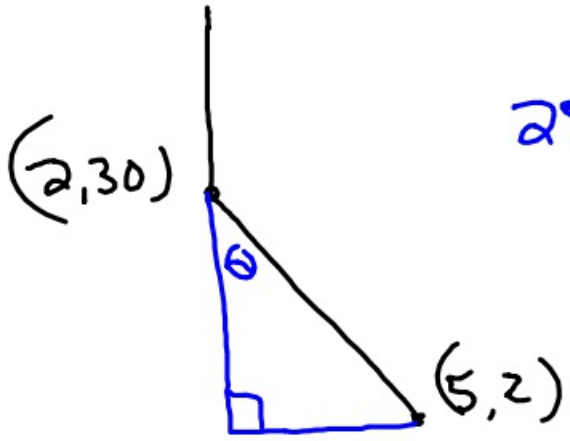
① (-11, 5)

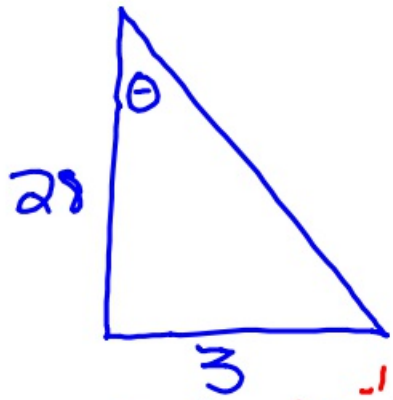


$\tan^{-1}\tan\theta = \tan^{-1}\frac{5}{11}$

$\theta \approx 24.4°$

② A plane is going due South. At (2, 30) it turns East to go to (5, 2). How many degrees must it turn?





$\tan^{-1}\tan\theta = \tan^{-1}\frac{3}{28}$

$\theta \approx 6.1°$

(3) In which quadrant is 4,107°?

$$\frac{4107}{360} = 11....$$

$$360 \times 11 = 3960$$

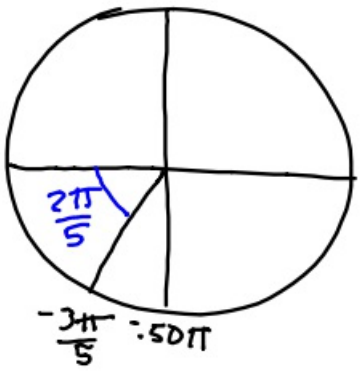
$$4107 - 3960 = 147^\circ$$

II

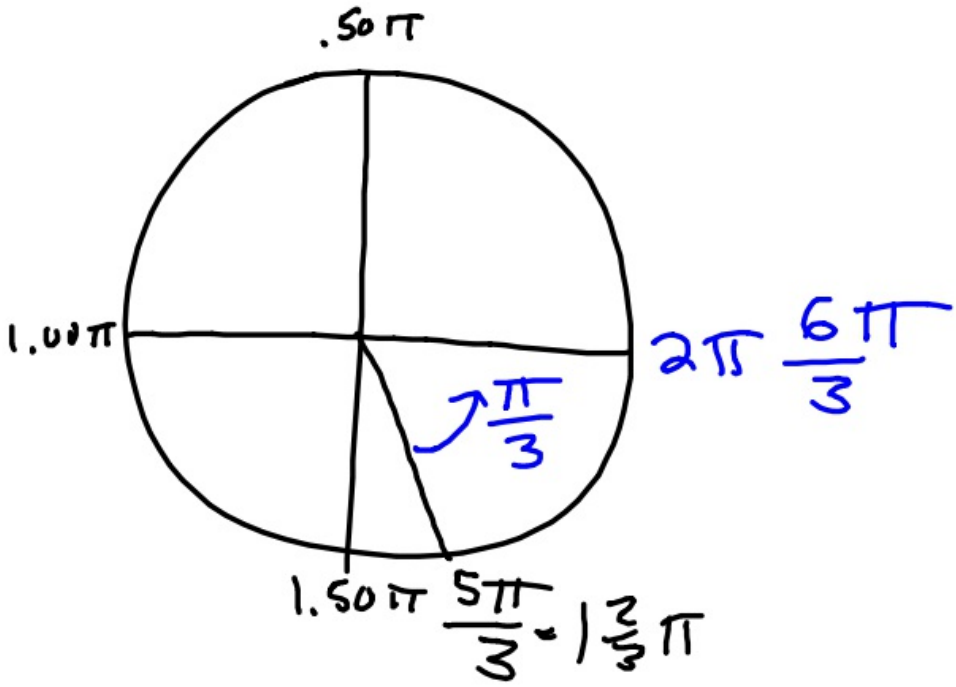
(4) Change $\frac{3\pi}{5}$ to degrees.

$$\frac{3\pi}{5} \cdot \frac{180^\circ}{\pi} = \frac{540}{5} = 108^\circ$$

(5) Give the reference angle for $-\frac{3\pi}{5}$.



(6) Give reference angle to $\frac{5\pi}{3}$.

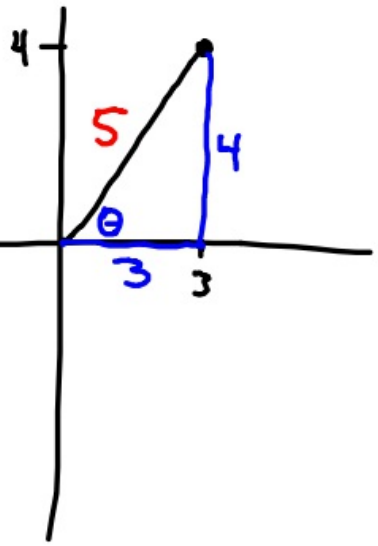


(7) Terminal side goes through (3, 4)

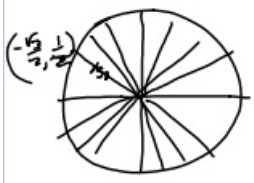
$\sin\theta = \frac{4}{5}$

$\csc\theta = \frac{hyp}{opp} = \frac{5}{4}$

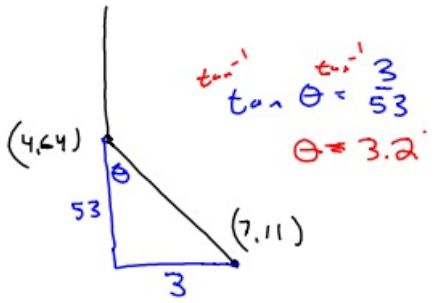
$\sec\theta = \frac{hyp}{adj} = \frac{5}{3}$



3-7-18 4th Trig



① A plane is going due South. At (4, 64) it turns East towards (7, 11). How many degrees does it turn?

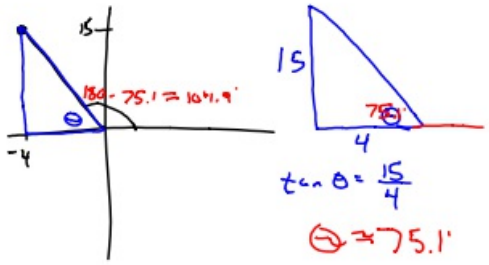


$\tan^{-1}$ $\tan^{-1}$

$\tan\theta = \frac{3}{53}$

$\theta = 3.2°$

② What is opening if terminal side goes through (−4, 15).



$\tan\theta = \frac{15}{4}$

$\theta = 75.1°$

③ In which quadrant is 3,111°?

$\frac{3111}{360} = 8.6\ldots$

$8 \times 360 = 2880$

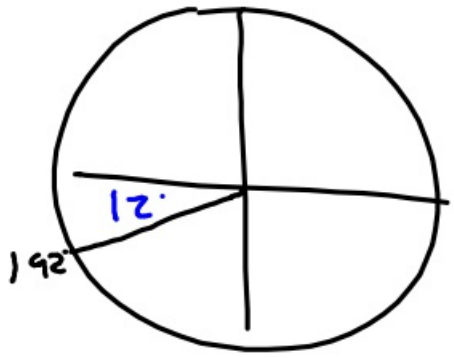
$3111 - 2880 = 231°$

III

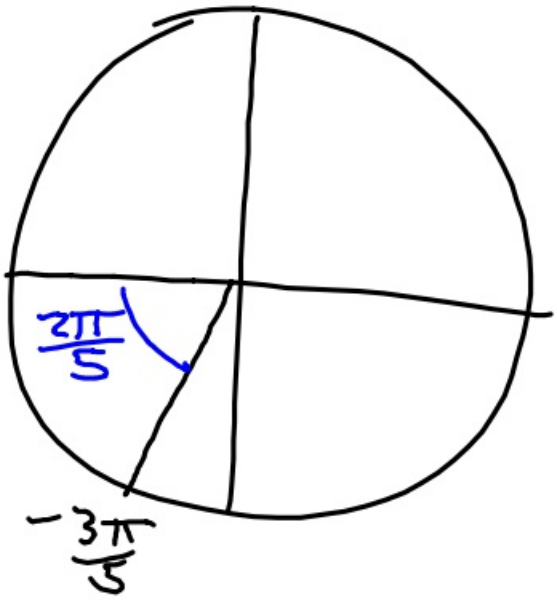
(4) Convert $\frac{4\pi}{5}$ to degrees.

$$\frac{4\pi}{5} \cdot \frac{180^\circ}{\pi} = \frac{720^\circ}{5} = 144^\circ$$

(5) Give the reference angle to 192°.



(6) Reference angle to $-\frac{3\pi}{5}$



(7) Are $\frac{2\pi}{5}$ and $\frac{47\pi}{5}$ coterminal?

$$\frac{47\pi}{5} - \frac{2\pi}{5} = \frac{45\pi}{5} = 9\pi$$

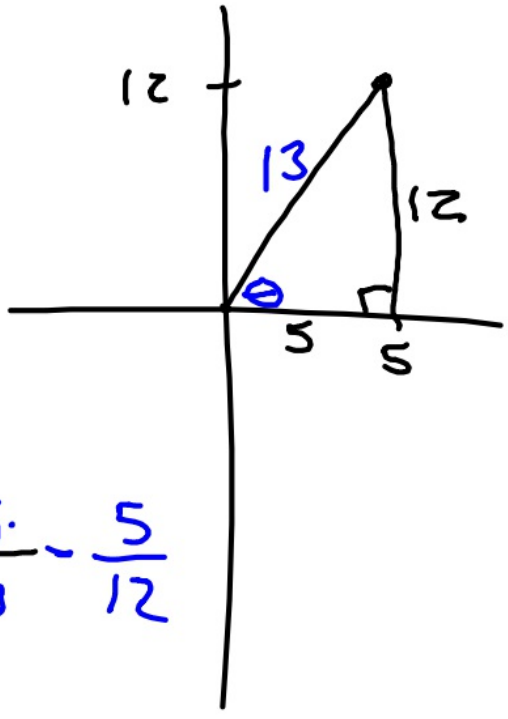
NO

(8)

$\sin\theta = \frac{12}{13}$

$\cos\theta = \frac{5}{13}$

$\cot\theta = \frac{\text{adj.}}{\text{opp}} = \frac{5}{12}$



$5^2 + 12^2 = c^2$

$169 = c^2$

$c = 13$