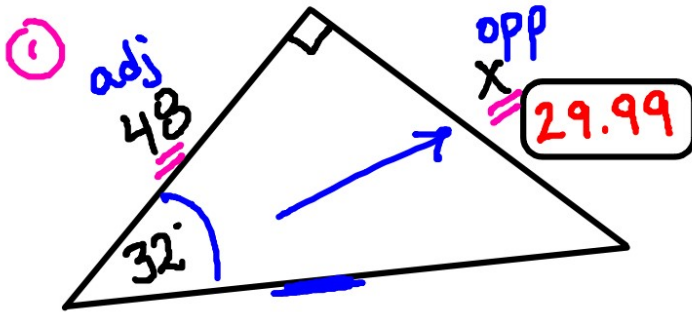


DRILL



$$48 \tan 32^\circ = \frac{x}{48} \cdot 48$$
$$x \approx 29.99$$

③ Convert $\frac{3\pi}{5}$ to degrees.

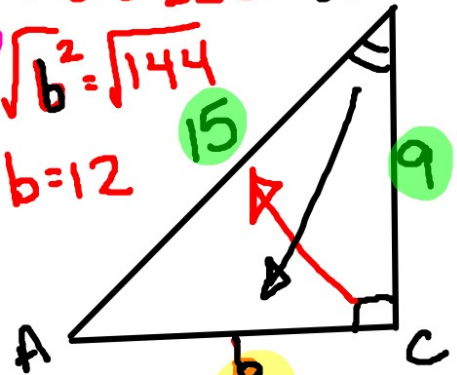
$$\frac{3\pi}{5} \cdot \frac{180}{\pi} = \frac{540}{5} = 108^\circ$$

81- $9^2 + b^2 = 15^2$

$$81 + b^2 = 225 - 81$$

② $\sqrt{b^2} = \sqrt{144}$

$b = 12$



Find $\sin B = \frac{12}{15}$

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

Unit Circle



$$\frac{\sqrt{3}}{2} \div \frac{1}{2} = \frac{\sqrt{3}}{\cancel{2}} \cdot \frac{\cancel{2}}{1} = \frac{\sqrt{3}}{1} = \sqrt{3}$$

θ	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	undefined

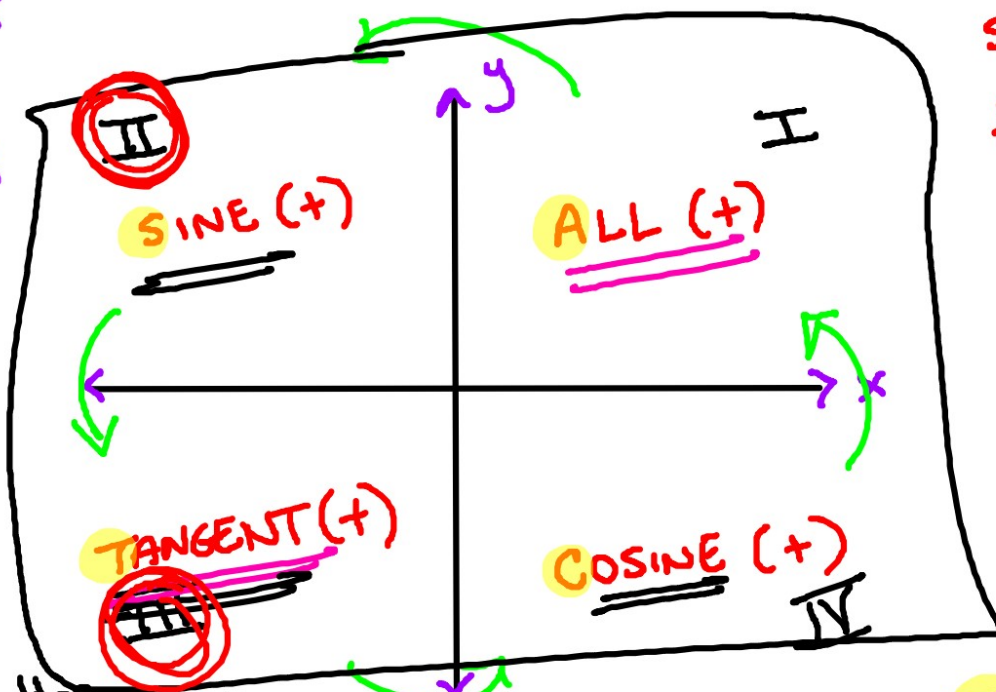
$$\tan \theta = \frac{\sin \theta}{\cos \theta}$$

$$\frac{1}{2} \div \frac{\sqrt{3}}{2} = \frac{1}{\cancel{2}} \cdot \frac{\cancel{2}}{\sqrt{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$\cos \theta = x$

$\sin \theta = y$

$\tan \theta = \frac{y}{x}$



$\sin \theta < 0$
 $\tan \theta > 0$
III

Ex: Name the quadrant:

① $\tan \theta = -\frac{1}{3}$ & $\sin \theta > 0$ II or IV

② $\cos \theta < 0$ & $\tan \theta > 0$ II or III

Name the Quadrant

a) $\sin^+ \theta > 0$, $\tan^+ \theta > 0$
 I, II , I, III

I

b) $\cos^- \theta < 0$, $\sin^+ \theta > 0$
 II, III , I, II

II

c) $\tan^- \theta < 0$, $\cos^+ \theta > 0$
 II, IV , I, IV

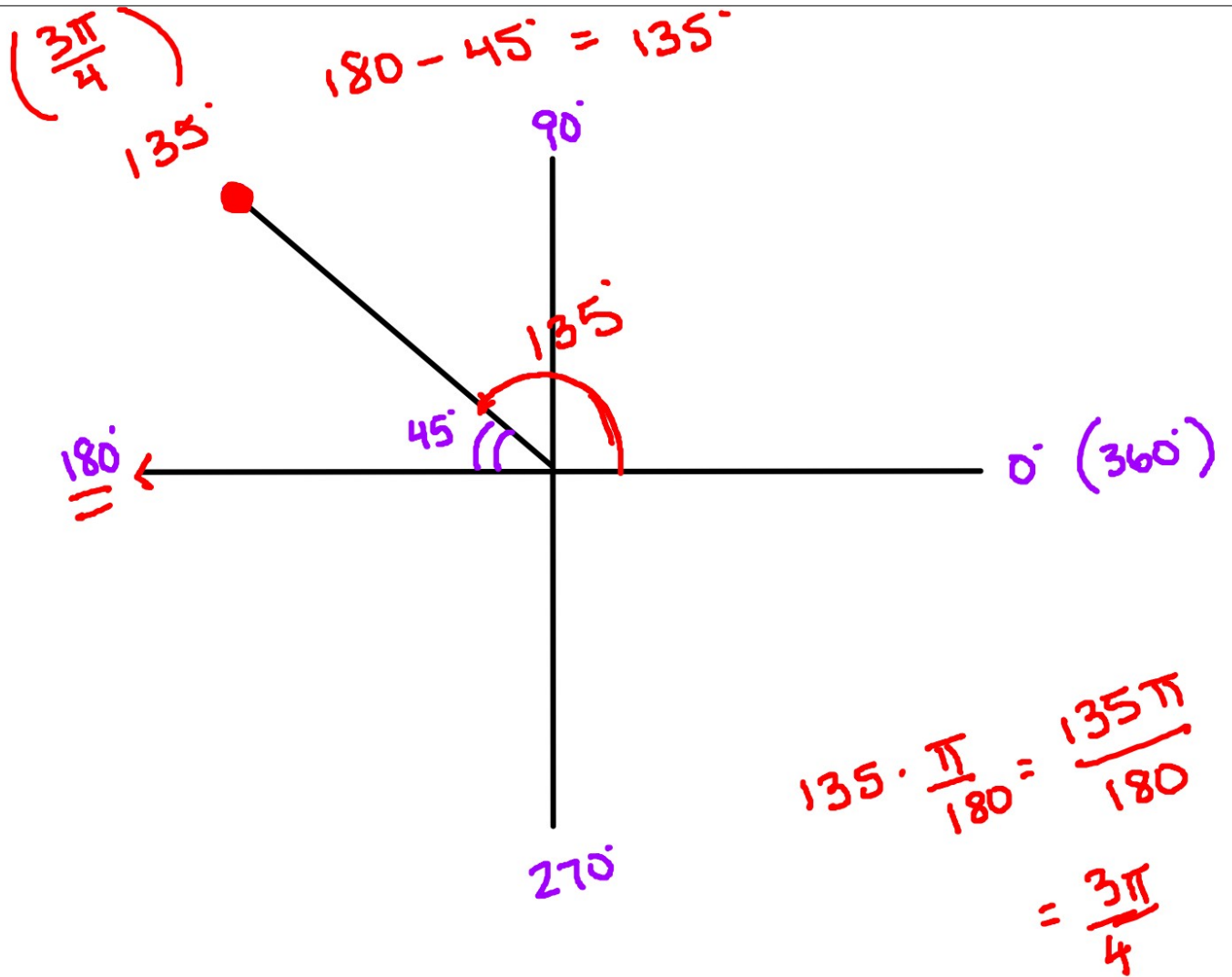
IV

d) $\tan^+ \theta > 0$, $\sin^- \theta < 0$
 I, III , III, IV

III

e) $\sin^- \theta < 0$, $\cos^- \theta < 0$
 III, IV , II, III

III



Ex:

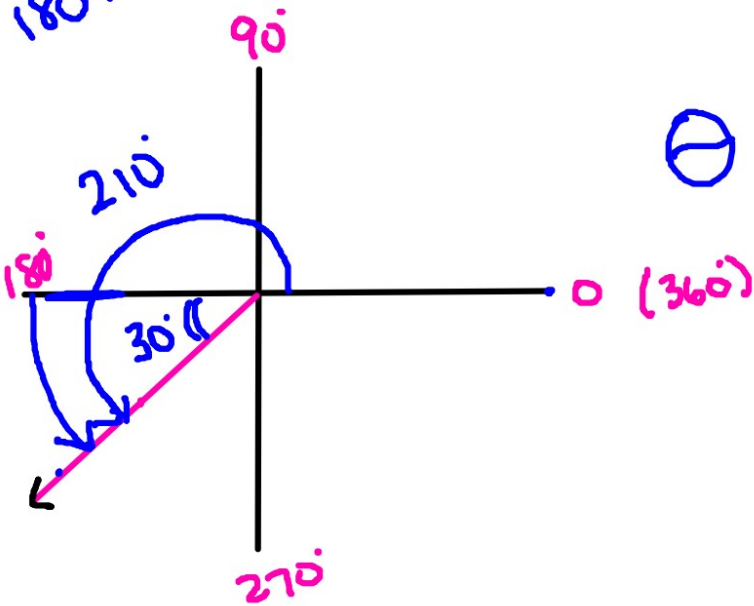
Quadrant III

Find θ

(Degrees & Radians)

$$\sin \theta = -\frac{1}{2}$$

$$180 + 30$$



$$\theta = \underline{\underline{210^\circ}}$$

$$\theta = \frac{210 \cdot \pi}{180} = \underline{\underline{\frac{7\pi}{6}}}$$