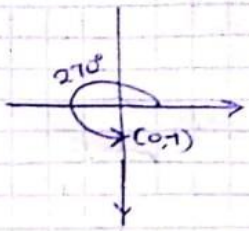
Find value of each expression.

1. $\sin(-270°)$

$\sin(-270°) = -\sin 270°$

$= -(-1)$

$= 1$



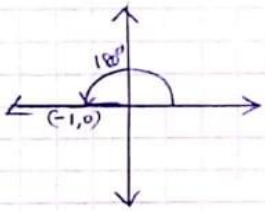
$\sin 270° = \frac{-1}{1} = -1$

$-\sin 270 = -(-1)$

$= 1$

2. $\cos(180°)$

$\cos 180 = -1$



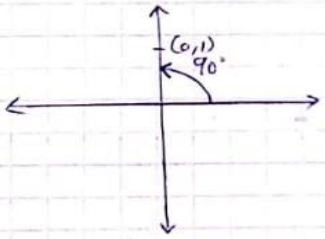
$\cos 180° = \frac{x}{r}$

$= \frac{-1}{1}$

$= -1$

3. $\sin 90°$

$\sin 90° = 1$



$\sin = \frac{\text{opposite}}{\text{hypotenuse}}$

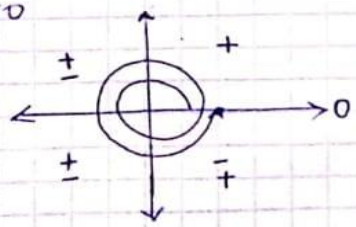
$\sin 90° = \frac{1}{1} = 1$

State whether the following expression are positive, negative or zero.

4. $\sin 4\pi$; Zero

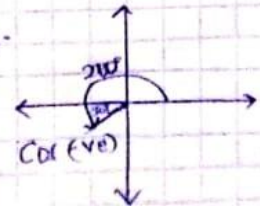
$4\pi = 4(180°)$

$= 720°$



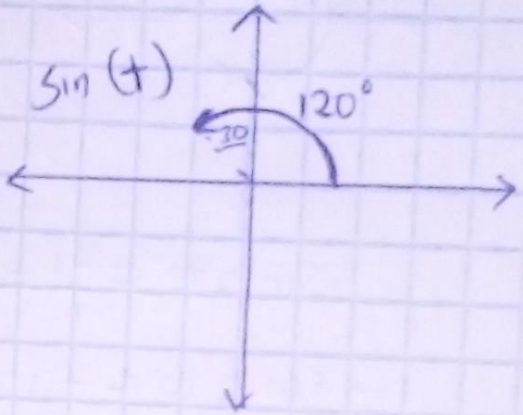
5. $\cos \frac{\pi}{6}$: $\cos 210°$

Negative



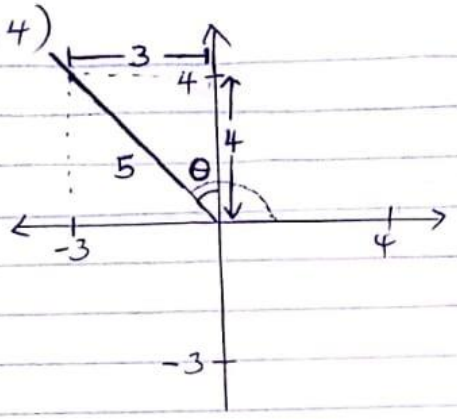
6. $\sin \frac{2\pi}{3} : \sin 120^\circ$

Positive



Find the Sin θ and Cos θ of the angle formed

7. (-3, 4)



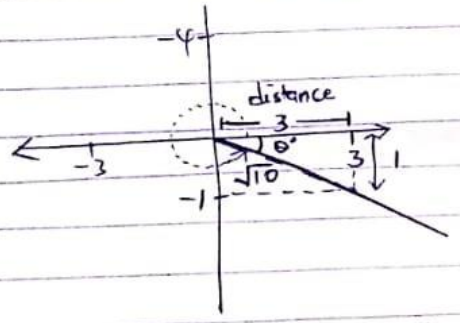
$\sin\theta^\circ = \left(\frac{O}{H}\right) = \left(\frac{3}{5}\right) = \sin^{-1}\left(\frac{3}{5}\right) = 36.9^\circ$

$= 90^\circ + 36.9^\circ = 126.9$

$\cos\theta^\circ = \left(\frac{A}{H}\right) = \left(\frac{4}{5}\right) = \cos^{-1}\left(\frac{4}{5}\right) = 36.87^\circ$

$= 90^\circ + 36.87^\circ = 126.86^\circ$

8. (3, -1)



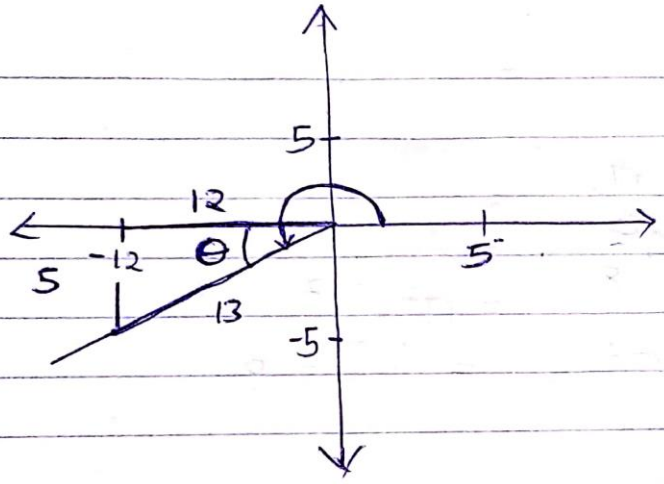
$\sin\theta^\circ = O/H = \left(\frac{1}{\sqrt{10}}\right) = \sin^{-1}\left(\frac{1}{\sqrt{10}}\right) = 18.4^\circ$

$= 360^\circ - 18.4 = 341.57^\circ$

$\cos\theta^\circ = \left(\frac{A}{H}\right) = \left(\frac{3}{\sqrt{10}}\right) = \cos^{-1}\left(\frac{3}{\sqrt{10}}\right) = 18.4$

$= 360^\circ - 18.4 = 341.57^\circ$

9. (12, -5)



$\sin\theta^\circ = \left(\frac{O}{H}\right) = \left(\frac{5}{13}\right) = \sin^{-1}\left(\frac{5}{13}\right) = 22.6^\circ$

$= 180^\circ + 22.6^\circ = 202.6^\circ$

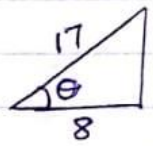
$\cos\theta^\circ = \left(\frac{A}{H}\right) = \left(\frac{12}{13}\right) = \cos^{-1}\left(\frac{12}{13}\right) = 22.6^\circ$

$= 180^\circ + 22.6^\circ = 202.6^\circ$

Given the Sin θ. Find the Cos θ of Each.

10. $\sin\theta = \frac{15}{17}$

$\sin = \frac{\text{Opposite}}{\text{Hypotenuse}}$



$= Adj?$

$= 17^2 - 15^2 = 64$

$= \sqrt{64} = 8$

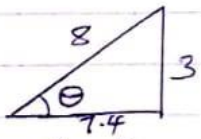
Adjacent = 8

Hence: $\cos\theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$

$\cos\theta = \frac{8}{17}$

11. $\sin\theta = \frac{3}{8}$

$\sin\theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$



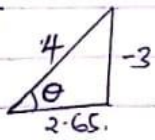
$Adjacent = 8^2 - 3^2 = 55$

$\sqrt{55} = 7.4$

$\cos\theta = \frac{Adj.}{Hyp.}$

$\cos\theta = \frac{7.4}{8}$

12. $\sin\theta = \frac{-3}{4}$



$\cos\theta = \frac{2.65}{4.}$