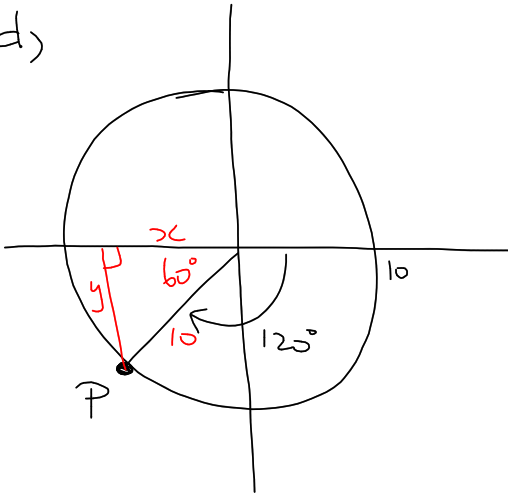


8b)

$$\begin{aligned} & 3 \tan 210 \sec 210 - \sin 330 \cot 135 - \cos 150 \csc 240 \\ &= 3 \left(\frac{1}{\sqrt{3}} \right) \left(-\frac{2}{\sqrt{3}} \right) - \left(-\frac{1}{2} \right) (-1) - \left(-\frac{\sqrt{3}}{2} \right) \left(-\frac{2}{\sqrt{3}} \right) \\ &= -2 - \frac{1}{2} - 1 \\ &= -3\frac{1}{2} = -\frac{7}{2} \end{aligned}$$

$$\begin{aligned}
 8c) \quad & \sin^2 120^\circ \operatorname{cosec} 270^\circ - \cos^2 315^\circ \operatorname{sec} 180^\circ - \tan^2 225^\circ \cot 315^\circ \\
 &= \sin^2 60^\circ \times \frac{1}{\sin 270^\circ} - \cos^2 45^\circ \times \frac{1}{\cos 180^\circ} - \tan^2 45^\circ \times \frac{1}{-\tan 45^\circ} \\
 &= \left(\frac{\sqrt{3}}{2}\right)^2 \times \frac{1}{-1} - \left(\frac{1}{\sqrt{2}}\right)^2 \times \frac{1}{-1} - (1)^2 \times \frac{1}{-1} \\
 &= -\frac{3}{4} + \frac{1}{2} + 1 \\
 &= \frac{3}{4}
 \end{aligned}$$

10d)



$$\frac{x}{10} = \cos 60^\circ \quad \frac{y}{10} = \sin 60^\circ$$

$$x = 10 \times \frac{1}{2} \quad y = 10 \times \frac{\sqrt{3}}{2}$$

$$x = 5$$

$$y = 5\sqrt{3}$$

$$P(-5, -5\sqrt{3})$$

4.2,

$$y = \sin x \Rightarrow \text{odd}$$

$$y = \cos x \Rightarrow \text{even}$$

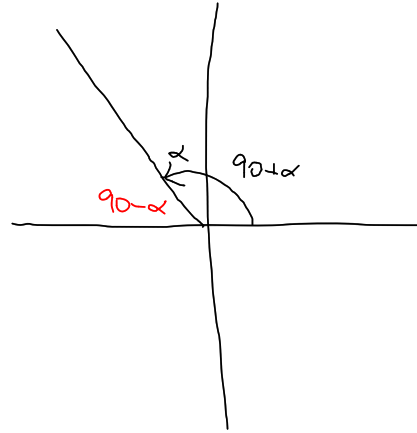
$$y = \tan x \Rightarrow \text{odd}$$

$$y = \csc x \Rightarrow \text{odd}$$

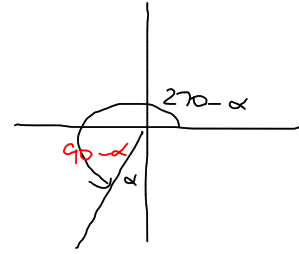
$$y = \sec x \Rightarrow \text{even}$$

$$y = \cot x \Rightarrow \text{odd}$$

$$\begin{aligned}
 16c) \quad & \sin(90-\alpha) \sec(90+\alpha) \\
 &= \cos\alpha \times -\sec(90-\alpha) \\
 &= \cos\alpha \times -\operatorname{cosec}\alpha \\
 &= \cos\alpha \times \frac{-1}{\sin\alpha} \\
 &= -\frac{\cos\alpha}{\sin\alpha} \\
 &= \underline{\underline{-\cot\alpha}}
 \end{aligned}$$



$$\begin{aligned}
 16d) \quad & \cot(180+\alpha) \cos(270-\alpha) \\
 &= \cot \alpha \times -\cos(90-\alpha) \\
 &= \cot \alpha \times -\sin \alpha \\
 &= \frac{\cos \alpha}{\sin \alpha} \times \frac{-\sin \alpha}{1} \\
 &= \underline{-\cos \alpha}
 \end{aligned}$$



$$\begin{aligned}
 17a) \quad & \tan(90-A) \sec(180+A) \cos(90+A) \\
 &= \cot A \times \frac{1}{-\cos A} \times -\cos(90-A) \\
 &= \frac{\cos A}{\sin A} \times \frac{1}{-\cos A} \times -\sin A \\
 &= \frac{-1}{-1} \\
 &= \underline{\underline{1}}
 \end{aligned}$$

