

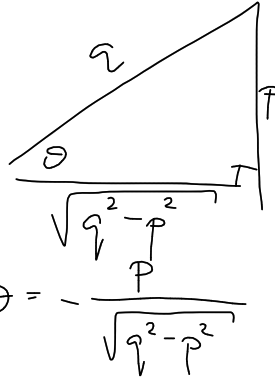
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$$\sin \theta = \frac{p}{q}$$

θ is obtuse $\Rightarrow \underline{\underline{Q2}}$

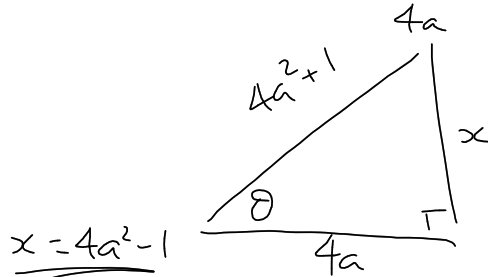
$$p > 0, q > 0$$

$$\cos \theta = -\frac{\sqrt{q^2 - p^2}}{q}$$



$$\tan \theta = -\frac{p}{\sqrt{q^2 - p^2}}$$

$$\frac{9}{\sec \theta = a + \frac{1}{4a}} \\ = \frac{4a^2 + 1}{4a}$$



$$x = 4a^2 - 1$$

$$\begin{aligned} \sec \theta + \tan \theta &= \frac{4a^2 + 1}{4a} + \frac{4a^2 - 1}{4a} \\ &= \frac{8a^2}{4a} \\ &= 2a \end{aligned}$$

$$x = 1 - 4a^2$$

$$\begin{aligned} \sec \theta + \tan \theta &= \frac{4a^2 + 1}{4a} + \frac{1 - 4a^2}{4a} \\ &= \frac{2}{4a} \\ &= \frac{1}{2a} \end{aligned}$$

prove $\sec \theta + \tan \theta = 2a$ or $\frac{1}{2a}$

$$\begin{aligned} x^2 &= \sqrt{(4a^2 + 1)^2 - (4a)^2} \\ &= \sqrt{16a^4 + 8a^2 + 1 - 16a^2} \\ &= \sqrt{16a^4 - 8a^2 + 1} \\ &= \sqrt{(4a^2 - 1)^2} \\ x &= 4a^2 - 1 \text{ or } 1 - 4a^2 \end{aligned}$$

$$\begin{aligned} \therefore \sec \theta + \tan \theta &= 2a \text{ or } \frac{1}{2a} \end{aligned}$$

8 $\sin \theta = k$
 θ is obtuse

$$\tan(\theta + 90^\circ)$$

$$\sin \theta = \sin \alpha = k$$

$$\tan(\theta + 90^\circ)$$

$$= \tan(90^\circ - \alpha)$$

$$= \cot \alpha$$

$$= \frac{\sqrt{1-k^2}}{k}$$

$$\underline{\underline{\quad}}$$

