

مثال ١- $\tan \theta = -3.5$ ووقع ظل الزاوية θ في الربع الثاني :-

$$\frac{\tan \theta}{1} = \frac{\sin \theta}{\cos \theta}$$

$$-3.5 \cos \theta = \sin \theta$$

$$\sin \theta = -3.5 \cos \theta$$

$$(\sin \theta)^2 + (\cos \theta)^2 = 1$$

$$(-3.5 \cos \theta)^2 + (\cos \theta)^2 = 1$$

$$12.25 \cos^2 \theta + \cos^2 \theta = 1$$

$$\frac{13.25 \cos^2 \theta}{13.25} = \frac{1}{13.25}$$

$$\sqrt{(\cos \theta)^2} = \sqrt{0.075}$$

$$\cos \theta = \pm 0.27$$

$$\cos \theta = -0.27$$

$$\sin \theta = -3.5 \cdot -0.27 = 0.945$$

النتيجة من صفحة ٨٩

$\cos \theta = 0.8$ احد القوسين الباقيتين في الربع الرابع :-

$$(\sin \theta)^2 + (\cos \theta)^2 = 1$$

$$(\sin \theta)^2 + (0.8)^2 = 1$$

$$(\sin \theta)^2 + 0.64 = 1$$

$$-0.64 -0.64$$

$$\sqrt{(\sin \theta)^2} = \sqrt{0.36}$$

$$\sin \theta = \pm 0.6$$

$$\sin \theta = -0.6$$

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

$$\tan \theta = \frac{-0.6}{0.8}$$

$$\tan \theta = -0.75$$

9) $\sin \theta > 0$

الربع الأول والثاني

الربع الثاني يا

$\sin \theta = +$

$\cos \theta = -$

$\tan \theta = -$

الربع الأول كل

$\sin \theta = +$

$\cos \theta = +$

$\tan \theta = +$

10) $\tan \theta < 0$

الربع الثاني والرابع

الربع الثالث كل

$\tan \theta = +$

$\sin \theta = -$

$\cos \theta = -$

الربع الرابع كل

$\cos \theta = +$

$\sin \theta = -$

$\tan \theta = -$

11) $\sin \theta < 0, \cos \theta < 0$ بنفس الوقت

الربع الثالث

13) $\sin \theta = -0.4$ من قيم المثلث

الربع الثالث والرابع

اصح
القيمة

14) $\cos \theta = -\frac{1}{2}$

الربع الثاني والثالث

20) $\tan \theta = -4$ و $\sin \theta > 0$

الربع الثاني

16) $\tan \theta = -1$

الربع الثاني والرابع

21) $P(0, 4)$

$\cos \theta = 0, \sin \theta = 1$

$\sin \theta = 1$

$\cos \theta = 0$

$\tan \theta = \frac{\sin}{\cos} = \frac{1}{0}$

غير معرف

22) $P(0.5, 0.5\sqrt{3})$

$\sin \theta = 0.5\sqrt{3}$

$\cos \theta = 0.5$

$\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{0.5\sqrt{3}}{0.5} = \sqrt{3}$

$\sin \theta = 0.5\sqrt{3}$

$\cos \theta = 0.5$

23) $P(-\frac{8}{17}, \frac{15}{17})$

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

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

$\tan \theta = \frac{15}{-8} = -\frac{15}{8}$

$$24) P\left(\frac{20}{29}, -\frac{24}{29}\right)$$

$$\sin \theta = \frac{-24}{29} \quad \cos \theta = \frac{20}{29} \quad \tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{-24}{29} \times \frac{29}{20} = \frac{-24}{20}$$

$$25) \sin \theta = \frac{3}{4}, 90^\circ < \theta < 180^\circ$$

$$(\sin \theta)^2 + (\cos \theta)^2 = 1$$

$$\left(\frac{3}{4}\right)^2 + (\cos \theta)^2 = 1$$

$$\frac{9}{16} + (\cos \theta)^2 = 1 \quad \frac{9}{16} + (\cos \theta)^2 = \frac{16}{16} - \frac{9}{16}$$

$$(\cos \theta)^2 = \frac{16-9}{16} = \frac{7}{16} \quad \sqrt{(\cos \theta)^2} = \sqrt{\frac{7}{16}} \quad \cos \theta = \frac{\sqrt{7}}{4}$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{\frac{3}{4}}{\frac{\sqrt{7}}{4}} = \frac{3}{\sqrt{7}} \quad \tan \theta = \frac{-3}{\sqrt{7}}$$

$$\tan \theta = 2 (180^\circ < \theta < 270^\circ)$$

أوجد النسبتين المثلثيتين

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

$$\frac{2}{1} = \frac{\sin \theta}{\cos \theta} \quad \sin \theta = 2 \cos \theta$$

$$(\sin \theta)^2 + (\cos \theta)^2 = 1$$

$$\sqrt{\cos \theta^2} = \sqrt{\frac{1}{5}}$$

$$\cos \theta = \pm \sqrt{\frac{1}{5}} = \pm \sqrt{\frac{1}{5}}$$

$$(2 \cos \theta)^2 + (\cos \theta)^2 = 1$$

$$4 \cos \theta^2 + (\cos \theta)^2 = 1$$

$$\sin \theta = 2 \left(-\sqrt{\frac{1}{5}}\right)$$

$$\sin \theta = -2 \sqrt{\frac{1}{5}}$$

$$24) \cos \theta = -0.75 \quad \tan \theta < 0$$

$$(\cos \theta)^2 + (\sin \theta)^2 = 1$$

$$(-0.75)^2 + (\sin \theta)^2 = 1$$

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

$$\frac{0.5625 + (\sin \theta)^2 = 1}{-0.5625}$$

$$\tan \theta = \frac{0.66}{-0.75}$$

$$\sqrt{\sin^2 \theta} = \sqrt{0.4375}$$

$$\sin \theta = \pm 0.66$$

$$\sin \theta = +0.66$$

$$\tan \theta = -0.88$$