1. Give exact values for the following:

(a) Sin 30°

(b) Sin 150°

(c) Sin 210°

(d) Sin 330°

(e) Tan 135°

(f) Tan 240°

(g) Cos 30°

(h) Cos 210°

(i) Cos 315°

(j) Tan 180°

(k) Cosec 300°

(l) Sec² 120°

2. If $Cos\,\theta = \frac{5}{13}$, and $Sin\,\theta < 0$, Find the exact values of:

(a) $Tan\,\theta$

(b) $Cosec\,\theta$

3. If $Tan\,\theta = -\frac{7}{24}$, and $Cos\,\theta < 0$, Find the exact values of:

(a) $Sin\,\theta$

(b) $Cot\,\theta$

(c) $Sec\,\theta$

ANSWERS

Quest ①

a) $= \sin 30° = \frac{1}{2}$ b) $= +\sin 30 = \frac{1}{2}$

c) $= -\sin 30° = -\frac{1}{2}$ d) $= -\sin 30 = -\frac{1}{2}$
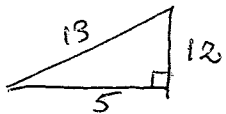
e) $= -\tan 45 = -1$ f) $= +\tan 60 = \sqrt{3}$

g) $= \cos 30° = \frac{\sqrt{3}}{2}$ h) $= -\cos 30° = -\frac{\sqrt{3}}{2}$

i) $= +\cos 45° = \frac{1}{\sqrt{2}}$ j) $= \tan 0° = 0$

k) $= -\frac{1}{\sin 60} = \frac{2}{\sqrt{3}}$ l) $= \left(\frac{1}{\cos 60}\right)^2 = 4$

Quest ②

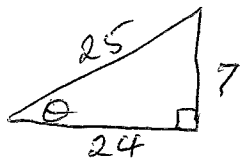$\cos\theta > 0$ & $\sin\theta < 0 \Rightarrow$ 4TH quadrand for θ

∴ (a) $\tan\theta = -\frac{12}{5}$

(b) $\csc\theta = \frac{1}{\sin\theta} = -\frac{13}{12}$

Quest ③

$\tan\theta < 0$ & $\cos\theta < 0 \Rightarrow \theta$ in the 2ND quadrant

∴ (a) $\sin\theta = +\frac{7}{25}$

(b) $\cot\theta = -\frac{24}{7}$

(c) $\sec\theta = -\frac{25}{24}$