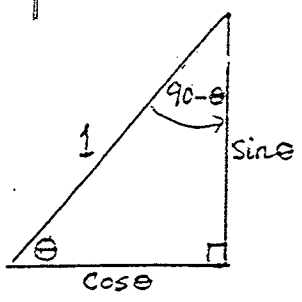
WORKSHEET (17) – P1



① $\sin(90-\theta) \equiv \cos\theta$
$\cos(90-\theta) \equiv \sin\theta$

② $\tan\theta \equiv \frac{\sin\theta}{\cos\theta}$

$\cot\theta \equiv \frac{\cos\theta}{\sin\theta}$

③ $\cot\theta \equiv \frac{1}{\tan\theta}$ $\quad \operatorname{cosec}\theta = \frac{1}{\sin\theta}$ $\quad \sec\theta = \frac{1}{\cos\theta}$

④ $\cos^2\theta + \sin^2\theta \equiv 1$

$\sin^2\theta \equiv 1 - \cos^2\theta$

$\cos^2\theta \equiv 1 - \sin^2\theta$

⑤ $1 + \tan^2\theta \equiv \sec^2\theta$

$1 + \cot^2\theta \equiv \operatorname{cosec}^2\theta$

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

2) $\frac{\cos\theta}{\sin\theta} =$

3) $\sec\theta \times \sin\theta =$

4) $\cot\theta \times \tan\theta =$

5) $\operatorname{cosec}\theta \times \tan\theta =$

6) $\sec\theta \times \cos^2\theta =$

7) $1 - \cos^2\theta =$

8) $\sqrt{1-\sin^2\theta} =$

9) $5\cos^2\theta + 5\sin^2\theta =$

10) $\cos^3\theta + \cos\theta.\sin^2\theta =$

11) $6 + 6\tan^2\theta =$

12) $\operatorname{cosec}^2\theta - 1 =$

13) $\frac{\cos(90-\theta)}{\sin(90-\theta)} =$

14) $\sin(90-\theta) \times \tan\theta =$

15) $\frac{2\cos\theta}{\sqrt{1-\sin^2\theta}} =$

16) $\frac{\cos\theta}{\sqrt{1-\cos^2\theta}} =$

17) $\cot\theta \times \sin\theta =$

18) $\tan\theta \times \sqrt{1-\sin^2\theta} =$

19) $\frac{1}{\sec\theta} =$

20) $\cos\theta\sqrt{1+\tan^2\theta} =$

21) $(\cos\theta + \sin\theta)^2 - 2.\cos\theta.\sin\theta$
$=$

22) $\frac{\cos\theta}{\sin\theta} + \frac{\sin\theta}{\cos\theta} =$

ANSWERS

(1) $\tan\theta$ (2) $\cot\theta$ (3) $\tan\theta$ (4) 1 (5) $\sec\theta$ (6) $\cos\theta$ (7) $\sin^2\theta$ (8) $\cos\theta$ (9) 5 (10) $\cos\theta$ (11) $6\sec^2\theta$ (12) $\cot^2\theta$ (13) $\tan\theta$ (14) $\sin\theta$ (15) 2 (16) $\cot\theta$ (17) $\cos\theta$ (18) $\sin\theta$ (19) $\cos\theta$ (20) 1 (21) $\sin\theta$ (22) 2

HOMEWORK SHEET (18) – P1

(1)

(a) Sketch $y = \sin x$ for the range $-360° \leq x \leq 360°$

(b) Sketch $y = \cos x$ for the range $-180 \leq x \leq 270°$

(c) Sketch $y = \tan x$ for the range $-180° \leq x \leq 180°$

Quest (2)

By finding the angle each one below makes with the horizontal, find the equivalent acute angle for :–

	General Angle	Acute Angle
(a)	140°	
(b)	200°	
(c)	340°	
(d)	95°	
(e)	280°	
(f)	−210°	

Quest (3)

Give exact values for the following :–

(a) $\sin 30° =$

(b) $\sin 150° =$

(c) $\sin 210° =$

(d) $\sin 330° =$

(e) $\tan 135° =$

(f) $\tan 240° =$

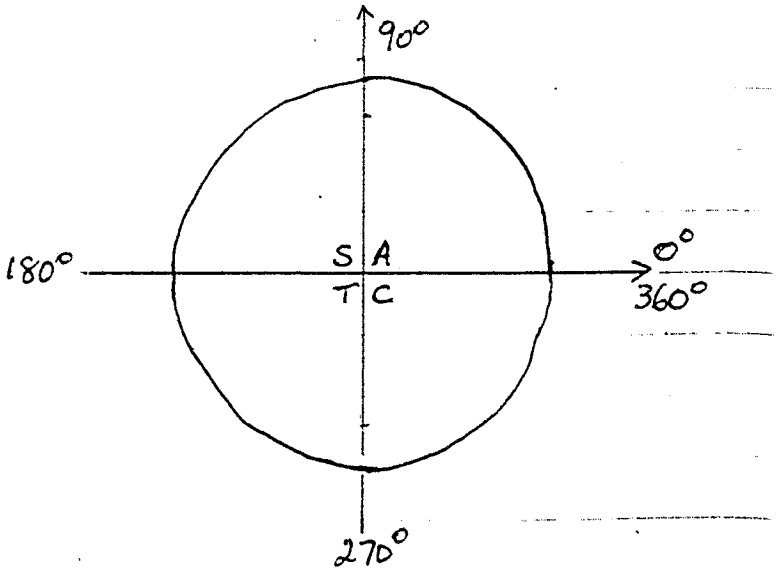
(g) $\cos 30° =$

(h) $\cos 210° =$

(i) $\cos 315° =$

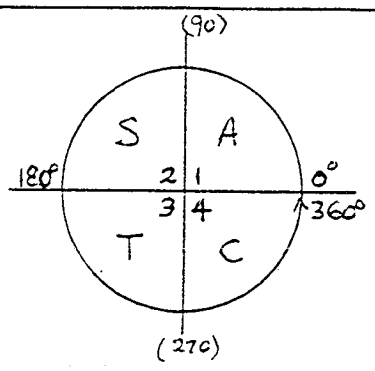
(j) $\tan 180° =$

(k) $\sec^2 120° =$



HOMEWORK SHEET (19) – P1

Solve for $0° \leq x < 360°$



1 – All values are ⊕ve
2 – Sine only is ⊕ve
3 – Tan only is ⊕ve
4 – Cos only is ⊕ve

① $\sin x = \frac{1}{\sqrt{2}}$

② $\tan x = -\sqrt{3}$

③ $\cos^2 x = \frac{3}{4}$

④ $4\tan x + 3 = 0$

⑤ $\operatorname{cosec} x = -1$

⑥ $\cos x = 2.5$

WORKSHEET (20) – P1

1) If $\cos\theta = \frac{5}{13}$ and $\sin\theta < 0$
Find the exact value of $\cot\theta$

2) Sketch $y = 5\cos\theta$
for $-180° < \theta < +180°$

3) Solve for $0° \leq \theta \leq 360°$

(a) $4\cos^2\theta - 3 = 0$

(b) $\sin 3\theta = 0.64$

(c) $2\sin\theta = 3\cos\theta$

(d) $\tan^2\theta - \tan\theta = 6$

(e) $6\cos^2\theta = 4 - \sin\theta$

(f) Find the height of the tower