Review:

Ans: $-\frac{5\pi}{6}, -\frac{\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}, \frac{19\pi}{6}, \frac{23\pi}{6}$

① $2\sin\theta + 1 = 0$, $-2\pi \le \theta \le 4\pi$

$2\sin\theta = -1$

$\sin\theta = -\frac{1}{2}$ ⇝ $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right) \Rightarrow \frac{\pi}{6}$

(Ref ∠ $\frac{\pi}{6}$, Q3,4)

Ref ∠	
$180° - \theta$ $\pi - \theta$	θ
$180° + \theta$ $\pi + \theta$	$360° - \theta$ $2\pi - \theta$

Q3

$\theta = \pi + \frac{\pi}{6}$

$\theta = \frac{7\pi}{6}$ $+2\pi$ -2π

$\theta = \frac{19\pi}{6}$

$\theta = -\frac{5\pi}{6}$

Q4

$\theta = 2\pi - \frac{\pi}{6}$

$\theta = \frac{11\pi}{6}$ $+2\pi$ -2π

$\theta = \frac{23\pi}{6}$

$\theta = -\frac{\pi}{6}$

Ans: $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{2}, \frac{7\pi}{2}$, 0.64, 2.50, 8.78, 6.92

② $\cos\theta(3\csc\theta - 5) = 0$, $0 \le \theta \le 4\pi$

$\cos\theta = 0$ or $3\csc\theta - 5 = 0$

$\csc\theta = \frac{5}{3}$

$X = 0$

(0,1)

(0,-1)

$\theta = \frac{\pi}{2}, \frac{3\pi}{2}$ $+2\pi$ $+2\pi$

$\frac{5\pi}{2}, \frac{7\pi}{2}$

similar Process . . .

$(x+3)(x-7) = 0$

$x+3=0$ $x-7=0$

$x=-3$ $x=7$

$\csc\theta = \frac{5}{3}$ ⇝ $\sin\theta = \frac{3}{5}$

(Ref ∠ 0.64, Q 1,2)

$\theta = 0.64, \pi - 0.64$ $+2\pi$

$= 2.50$

$= 6.92$ $= 8.78$

Solve:

Ex. $\sqrt{2}\cos\theta + 1 = 0, \; -360° \le \theta \le 720°$

$\sqrt{2}\cos\theta = -1$ (x, y)

$\cos\theta = \frac{-1}{\sqrt{2}}$ $(\cos\theta, \sin\theta)$

(Ref $\measuredangle$: $45°$, Q 2,3)

$Q2$ $Q3$

$\theta = 135°, 225°, 495°, 585°$

$-225°, -135°$

$45° \to \left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right)$

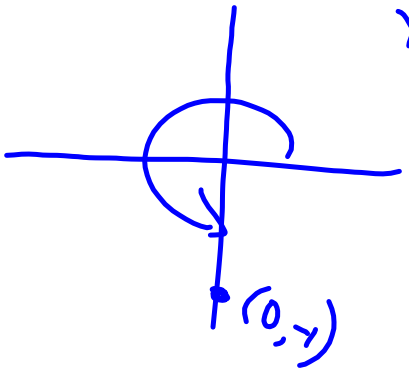
$30° \to \left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

$60° \to \left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

Ex. $\sin x + 1 = 0, \; -2\pi \le x \le 4\pi$

$\sin x = -1$

$y = -1$



$x = \frac{3\pi}{2}, \frac{7\pi}{2}, -\frac{\pi}{2}$

Check-Up:

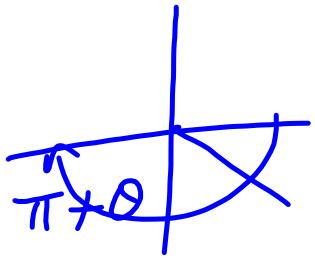
Solve:

① $\cot\theta = 0.7834$, $-\frac{\pi}{2} < \theta < -\frac{\pi}{2}$

② $3\cos x + 5 = 6$, $-360^\circ \leq x \leq 720^\circ$

③ $2\sin x(1-\sin x) = 0$, $-4\pi < x < 4\pi$

① $\cot\theta = 0.7834$, $-\frac{\pi}{2} < \theta < -\pi$ (Q3)



, Ref $\angle = 0.91, 43$

$\theta = \pi + 0.91$

$\theta = 4.05\,\text{Rad}$

-2π

-2.23

② $3\cos x + 5 = 6$, $-360° \leq x \leq 720°$

Pg. 211
#3,4,5

Attachments

Worksheet - Sketching Angles in Radians.doc