$\frac{2\pi}{04}$

QUIZ - CH6.

1. $L = \frac{\theta}{360} 2\pi r$

$L = \frac{45}{360} \times R \times 3.142 \times 3.$

$L = 2.3565 \text{ cm}.$

(b) 2.356 cm

2. $180° = \pi^r$
$135° = ?$

$\frac{135° \times \pi}{180°}$

$= \frac{3\pi}{4}.$

(a)

3. $60 \sec = 1 \min.$
$? \overset{x}{=} 1.5 \min$

$\frac{60 \times 1.5}{1} = 90 \sec$

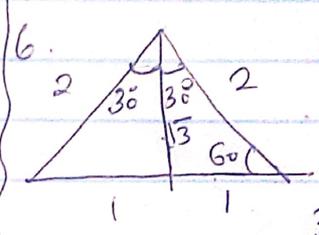$\frac{2\pi}{90} = \frac{\pi}{45} \text{ radians / Sec}$

(a)

4.
	Period
$y = 6 \sin(3x) + 20$	$\frac{2\pi}{3}$
$y = 2 \sin(0.5x) - 11$	4π
$y = 7 \cos(\pi x) - 11$	$2.$
$y = 8 \cos(2x) - 4$	π

∴ longest period.
$y = 2 \sin(0.5x) - 11$

(b)

5. $\pi = 180°$
$\frac{11\pi}{6} = ?$

$\frac{11 \cancel{\pi}}{\cancel{6}} \times \overset{30°}{\cancel{180}} \times \frac{1}{\cancel{\pi}}$
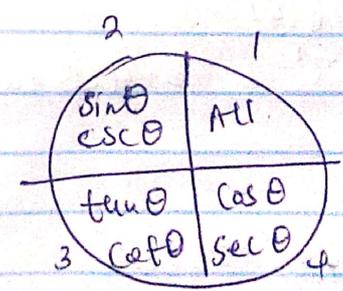
$= 330°.$

a.

6.

$\frac{\sqrt{3}}{2} = \cos$
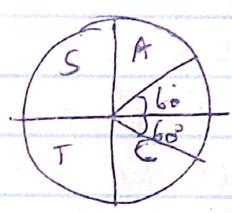
$360° - 60° = 300°$

$-\frac{\sqrt{3}}{2} = \sin 300°$

$\frac{300°}{360°} = \frac{5\pi}{6}$

$-\frac{\sqrt{3}}{2} = \sin\left(\frac{5\pi}{6}\right).$

7. $\csc\theta > 0 \qquad \sec\theta < 0$

$\csc\theta > 0 \qquad \sec\theta < 0$
quadrant 2.

(c).

8. Standard period $= 2\pi$

New period $= \dfrac{2\pi}{K}$

$$\dfrac{6}{5} = \dfrac{2\pi}{K}$$

$$K = \dfrac{2\pi}{6/5}$$

$$K = 2\pi \times \dfrac{5}{6} = \dfrac{5\pi}{3}$$

(d).

9. $\tan\theta = \dfrac{2}{4} = \dfrac{1}{2}$

$\theta = \tan^{-1} 0.5$

$\theta = 26.565$ above x-axis

also $\theta = 26.565$ below x-axis

angle to the negative

$= 90 - 26.565$

$= 63.43°$

$$\dfrac{63.43\pi}{180}$$

$\theta = 26.57°$

$$\dfrac{26.57\pi}{180} = 0.463 \text{ radians}$$

(b)

10. $\dfrac{1}{3} \times 360 = 120°$

$$L = \dfrac{\theta}{360} \, 2\pi r$$

$$L = \dfrac{120}{360} \times 2 \times 3.142 \times 3$$

$$L = 6.284 \, m.$$

(d)

11. $C = 2\pi r$

$C = 2 \times 3.142 \times 4$

$C = 25.136 \, m$

1 time $= 25.136$
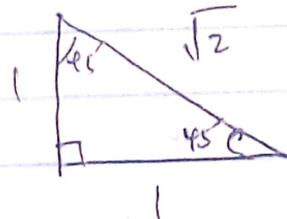
2.125 times $= ?$

$$\dfrac{2.125 \times 25.136}{1}$$

$= 53.410 \, m.$

(d). S

12. $\sin\left(\dfrac{3\pi}{4}\right)$

$\dfrac{3\pi}{4} = 135°$

$180° - 135° = 45°$

$\sin 45° = \dfrac{1}{\sqrt{2}}$

$\therefore \sin\left(\dfrac{3\pi}{4}\right) = \dfrac{1}{\sqrt{2}}$

(d)

13. $L = \dfrac{\theta}{360} 2\pi r \Rightarrow L = \dfrac{\theta}{2\pi} 2\pi r$

$\Rightarrow L = \theta r.$

$1 = \dfrac{4\pi}{3} r \Rightarrow r$

$$r = \dfrac{1 \times 3}{4\pi} = 0.188 \, m.$$

(d).

14. $y = 10 \sin\left[\dfrac{6\pi}{4}\left(x - \dfrac{\pi}{2}\right)\right] + 25$

period $= \dfrac{2\pi}{\left|\dfrac{6\pi}{4}\right|} = 2\pi \times \dfrac{4}{\overset{3}{6}\pi} = \dfrac{4}{3}$

period $= \dfrac{4}{3}$.