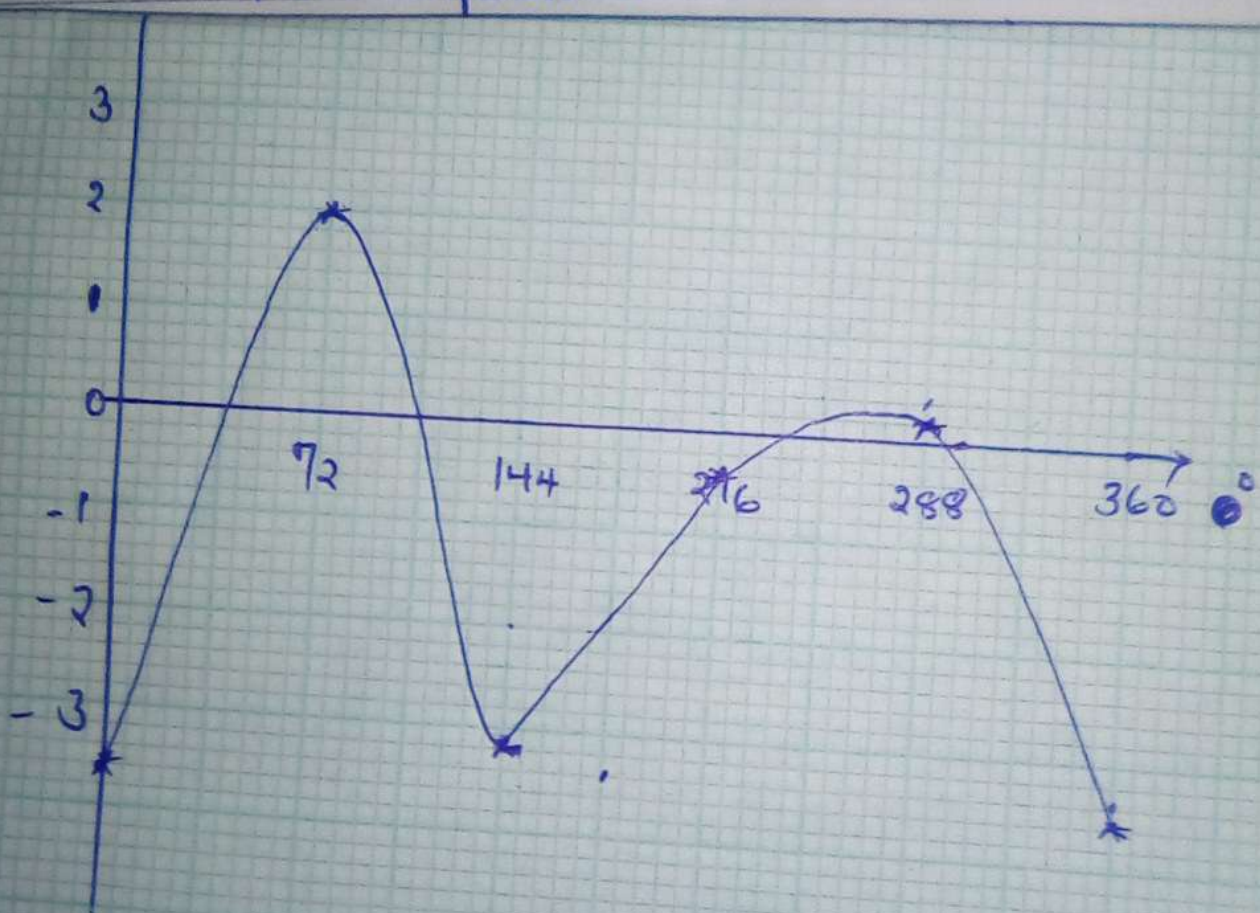


6	x	0	72	144	216	288	360
	y	-3.6	1.8 2.0	-3.2	-0.4	0.2	-3.6

From equation



domain: $0 - 360^\circ$ $360 \leq x \leq 0$

range: $-3.6 - 2$

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(a)

$$\frac{\sin 116}{90} = \frac{\sin \theta}{80}$$

$$\sin \theta = \frac{\sin 116 \times 80}{90}$$

$$\sin \theta = 0.7989$$

$$\theta = 53.02^\circ$$

$$\angle ABC = 53.0^\circ$$

$$\begin{aligned} \angle BAC &= 180 - (53 + 116) \\ &= 11.0^\circ \end{aligned}$$

AB =

AD =

$$\begin{aligned} \angle ACD &= 180 - 116 \\ &= 64^\circ \end{aligned}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\begin{aligned} a^2 &= 120^2 + 80^2 - 2 \times 120 \times 80 \times \cos 64 \\ &= 14400 + 6400 - 8416.73 \end{aligned}$$

$$a^2 = 12383.27$$

$$a = \sqrt{12383.27}$$

$$= 111.3 \text{ m}$$

(b)

 $\angle ECD$

$$A = \frac{1}{2} ab \sin \theta$$

$$\sin \theta = \frac{A \times 2}{ab}$$

$$= \frac{2200 \times 2}{120 \times 62}$$

$$\frac{4400}{7440} = \sin \theta$$

$$\sin \theta = 0.5914$$

$$\underline{\underline{36.3^\circ}}$$

9. $q = 8m$

(a)

Maximum point $(50, 8)$

Minimum point $= (0, 2)$

$$\frac{\Delta y}{\Delta x} = \frac{8-2}{50-0} = \frac{6}{50}$$

Equation $(t, h) \equiv (8, 2) \quad \frac{6}{50}$

$$\frac{(h-2)}{t-8} = \frac{6}{50}$$

$$50h - 100 = 6t - 48$$

$$50h - 6t = 52$$

b

$$50h = 52 + 6(35)$$

$$50h = 52 + 210$$

$$50h = 262$$

$$h = \underline{5.24m}$$

(c)

$\pi d x$

$$\frac{\theta}{360} \pi d$$

$$= \frac{270}{360} \times \frac{22}{7} \times 8$$

$$= 18.86m$$