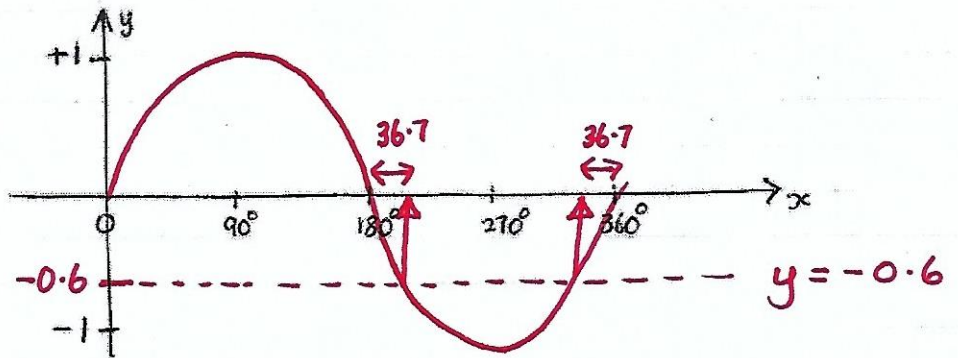


- 1) a) Sketch the curve $y = \sin x$ on the axes below



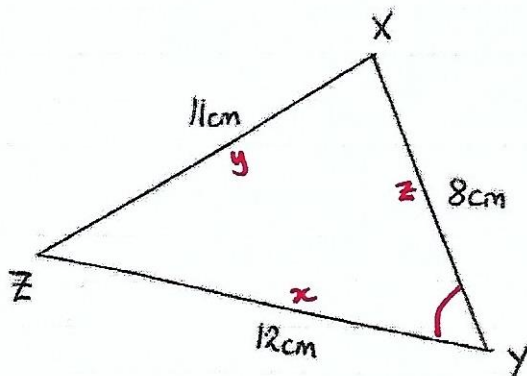
- b) Hence solve the equation $\sin x = -0.6$ in the range 0° to 360°

From calculator

$$\therefore x = 180 + 36.7 = 216.7^\circ$$

$$\text{and } x = 360 - 36.7 = 323.3^\circ$$

2)



Calculate $\hat{X\hat{Y}Z}$

$$y^2 = x^2 + z^2 - 2xz \cos Y$$

$$11^2 = 12^2 + 8^2 - 2(12)(8) \cos \hat{X\hat{Y}Z}$$

$$121 = 144 + 64 - 192 \cos \hat{X\hat{Y}Z}$$

$$121 = 208 - 192 \cos \hat{X\hat{Y}Z}$$

$$192 \cos \hat{X\hat{Y}Z} = 208 - 121$$

$$192 \cos \hat{X\hat{Y}Z} = 87$$

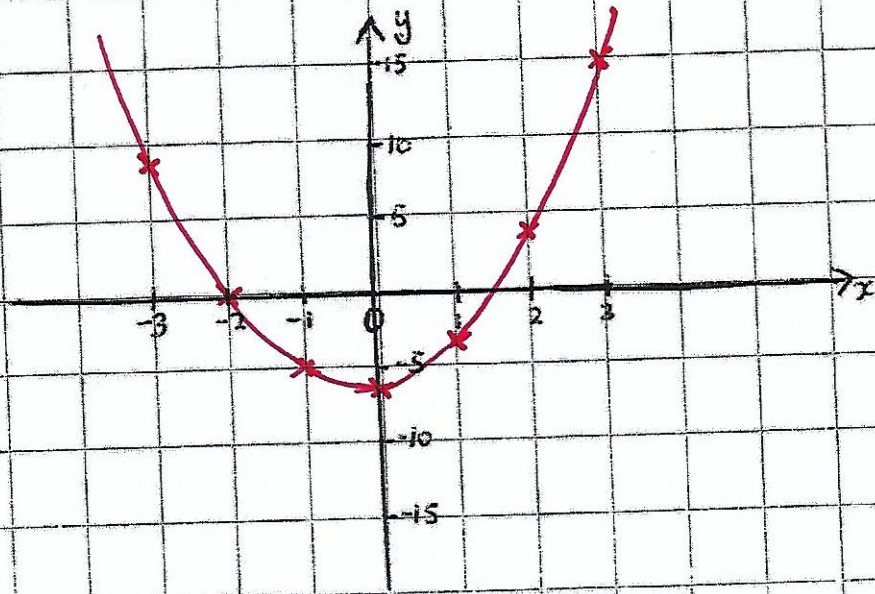
$$\cos \hat{X\hat{Y}Z} = \frac{87}{192}$$

$$\hat{X\hat{Y}Z} = 63.1^\circ$$

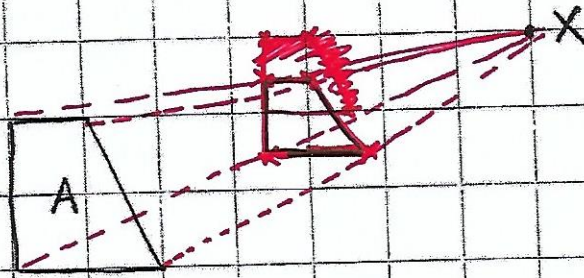
- 3) Is $(\sqrt{3}-\sqrt{2})(\sqrt{3}+\sqrt{2})$ rational or irrational?
- $$= 3 + \sqrt{6} - \sqrt{6} - 2$$
- $$= 1 \quad \therefore \frac{1}{1} \text{ is rational}$$

4) Complete the table of values and plot the graph of $y = 2x^2 + x - 6$

x	-3	-2	-1	0	1	2	3
y	9	0	-5	-6	-3	4	15



5) Enlarge shape A by scale factor $\frac{1}{2}$ using point X as the centre of enlargement



6) Enlarge shape A by scale factor -2 using point X as the centre of enlargement

