

# Question Three

11:52

page 4 of 6

ACHA 4003

2004443

a) solve using quadratic formula (2dp)

$$12x^2 = 31x + 15$$

$$12x^2 - 31x - 15 = 0$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = 3 \text{ or } -0.416$$

$$-0.416 \text{ to } 2dp = -0.42$$

$$\text{So } x = 3 \text{ or } -0.42$$

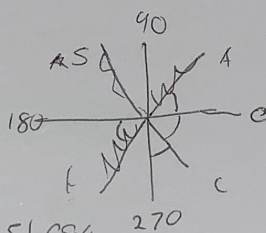
So x

b) solve for  $0 \leq x \leq 360$

i)  $\cos x = 0.62$

$$\cos^{-1} 0.62 = x$$

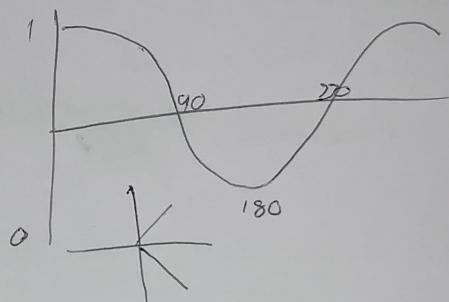
$$x = 51.684^\circ$$



$$360 - 51.684$$

$$x = 308.316^\circ$$

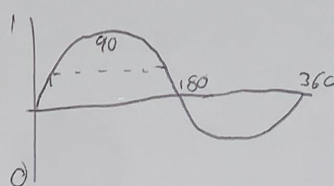
$$180 - 51.684 = 128.316$$



ii)  $7 \sin x = 4$

$$\sin^{-1} \left( \frac{4}{7} \right) = x$$

$$x = 34.850^\circ$$



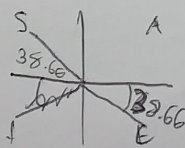
$$180 - 34.85$$

$$x = 145.15^\circ$$

iii)  $-5 \tan x = 4$

$$\tan^{-1} \left( \frac{4}{-5} \right) = -38.660^\circ$$

\* ignore minus not answer



$$x = 180 - 38.66 = 141.34$$

$$x = 360 - 38.66 = 321.34$$