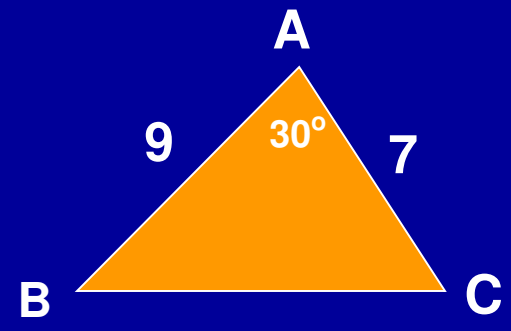
TOPIC:

SOLUTION OF TRIANGLES

Q21: Section C

(a)



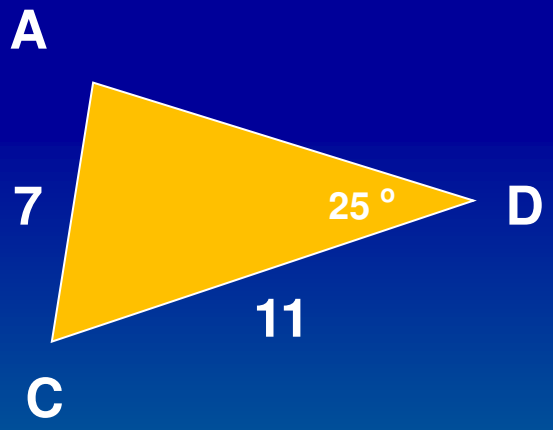
Use Cos Rule.

$BC^2 = 9^2 + 7^2 - 2(9)(7)\cos 30^\circ$ √ M1

$= 20.881$ √ A1

$BC = 4.570$ √ A1

(b)



Use Sin Rule.

$$\frac{\text{Sin} \angle CAD}{11} = \frac{\text{Sin } 25}{7}$$ √ M1

$\sin \angle CAD = 0.6641$ √ A1

$\angle CAD = 41.61^\circ$ √ A1

(c) Area ABCD

= ½(9)(7) sin30° + ½(7)(11) sin113.39°

= 51.09

√ M1

√ M1

√ M1

√ A1

Q22: Section C

(a) Area ABCD = ½(5)(6)sin $\angle$ BCD = 13

$\angle$ BCD = 60° 4'

√ A1

√ M1

(b) $BD^2 = 5^2 + 6^2 - 2(5)(6)\cos 60° 4'$

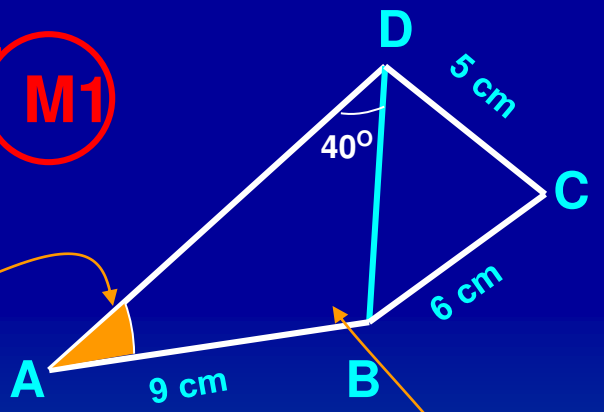
BD = 5.573

√ A1

√ M1

(c) $\dfrac{\sin \angle BAD}{5.573} = \dfrac{\sin 40°}{9}$

√ M1



$\angle$ BAD = 23° 27'

√ A1

$\angle$ ABD = 180° − 40° − 23° 17'

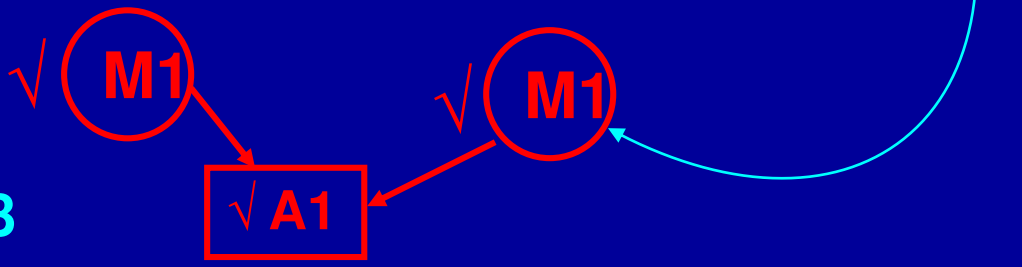
= 116° 33'

√ A1

(d) Area ABCD = Area $\triangle$ BCD + Area $\triangle$ BAD

$= 13 + \frac{1}{2}(9)(5.573)\sin 116^\circ 33'$

$= 35.43$



THE END

TAMAT