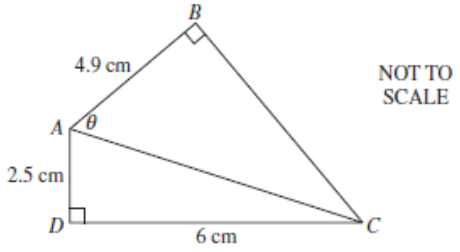
19 MS2 **22** Two right-angled triangles, *ABC* and *ADC*, are shown.

Calculate the size of angle θ, correct to the nearest minute.



3

Using triangle *ADC*, and Pythagoras:

$AC^2 = 2.5^2 + 6^2$

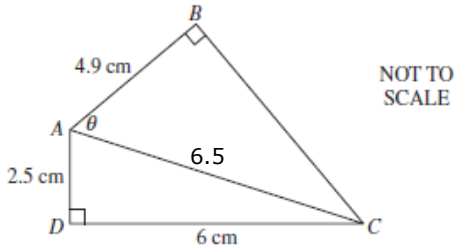
$= 42.25$

$AC = 6.5$ ✔

Using triangle *ABC*,

$\cos\theta = \frac{4.9}{6.5}$ ✔

$\theta = 41°5'$ (nearest minute) ✔



State Mean: **1.54/3**

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by NESA.

Marking Feedback:

In better responses, students were able to find the:

- Find *AC* by using either Pythagoras theorem or the cosine rule
- use right-angled trigonometry ($\cos\theta = \frac{A}{H}$) to find θ

Areas for students to improve include:

- remembering to square root their answer when using Pythagoras' theorem or the cosine rule
- practising with two triangles of different orientations and identifying the correct trig ratio
- avoiding rounding too soon when solving problems with several steps
- understanding that if angles are alternate then the appropriate parallel lines would have been marked on the diagram.