Trigonometry Q11 (30/6/23)

For the triangle below, what is the best strategy for finding angle A?


## Solution

Although there is only one way of drawing the triangle, we want to avoid using $\sin A$, as $A$ is close to $90^{\circ}$ $\left(\right.$ and $\left.\sin x=\sin \left(180^{\circ}-x\right)\right)$

But we could find $C$ instead, and subtract $B+C$ from $180^{\circ}$.
We can use the Cosine rule to find $A C$, and then the Sine rule to find $C$, and hence $A$.

Alternatively, having found $A C$, we could use the Cosine rule again to find $A$ (there is never any ambiguity when using the Cosine rule).

