at least two unknowns (not including h), so this isn't a productive line of inquiry just yet. However, we also have the triangle AOC, which is right-angled. In particular, we have expressions for the sides that are adjacent and opposite to the angle OAC. So, we can write

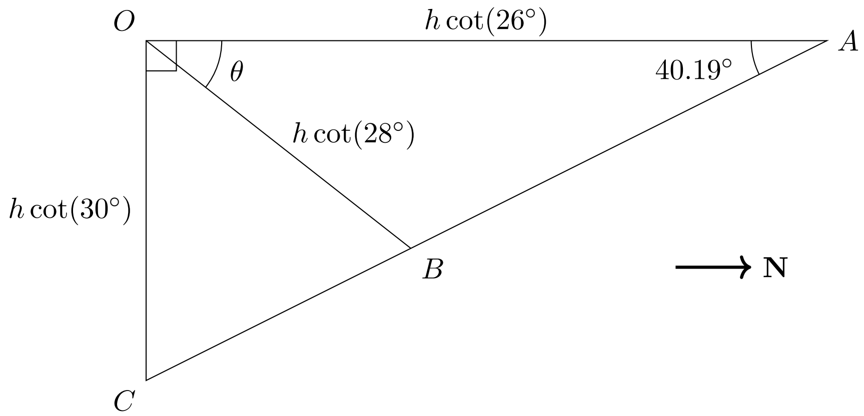
$$\begin{aligned}\tan(\angle AOC) &= \frac{CO}{AO} \\ &= \frac{h\cot(30^\circ)}{h\cot(26^\circ)} \\ &= 0.844778\ldots\end{aligned}$$

We know that tan is positive in the first and third quadrants, however $\angle OAC$ is an interior angle of a right-angled triangle, thus it must be acute, so we take the acute solution (which coincides with $\tan^{-1}(0.844778)$ on your calculator[2]):

$$\implies \angle OAC = \sim 40.19^\circ$$

Remark. It is likely that we will use this quantity again in a calculation. To prevent rounding errors it is good practice to save intermediate quantities such as these as exactly as possible. The best way to do this is to use the memory buttons on your calculator (see your calculator's user manual for details).

Let's put this on the diagram as well.



Remember, we still want to find θ: the sine and cosine rules in $\triangle AOB$ are the main methods for doing so. However, the sine and cosine rules involving θ still contain two unknowns – the fact that we don't know the length on AB is problematic to this approach. But if we can find $\angle OBA$, then we can take advantage of the angle sum of a triangle to determine θ. The cosine rule is not an option since we don't know AB [3], so the sine rule is probably the most useful tool we have remaining. In particular, we can write

$$\begin{aligned}\frac{\sin(\angle OBA)}{AO} &= \frac{\sin(\angle BAO)}{OB} \\ \frac{\sin(\angle OBA)}{h\cot(26^\circ)} &= \frac{\sin(40.19\ldots^\circ)}{h\cot(28^\circ)} \\ \sin(\angle OBA) &= \frac{\sin(40.19\ldots^\circ)\tan(28^\circ)}{\tan(26^\circ)} \\ &= 0.703516\ldots\end{aligned}$$

[2]This is because the range of the inverse tan function is $-90^\circ < y < 90^\circ$.

[3]Strictly speaking, we can use the cosine rule to find an expression for AB in terms of h, and then use this to determine θ using the sine or cosine rule directly, but this is somewhat more difficult.