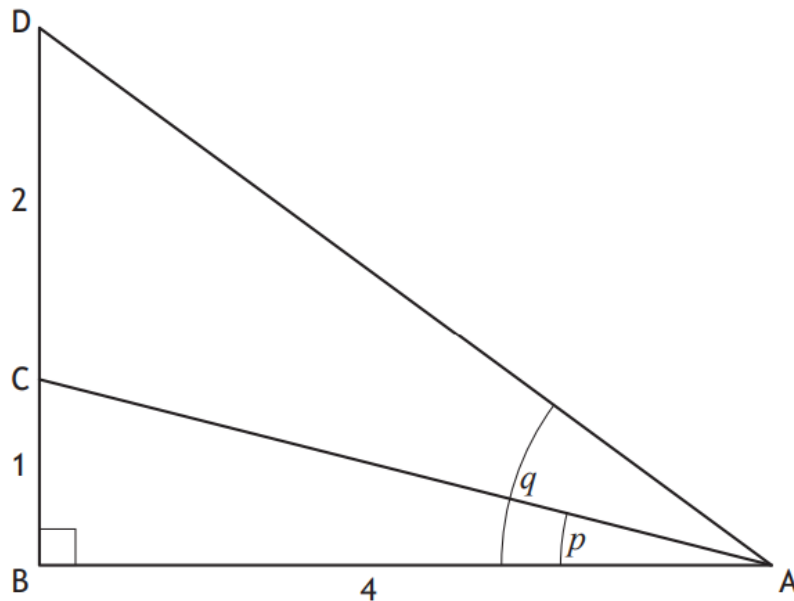Triangle ABD is right-angled at B with angles BAC = p and BAD = q and lengths as shown in the diagram below.

Show that the exact value of $\cos(q - p)$ is $\dfrac{19\sqrt{17}}{85}$.   **5**

Answer:

Proof using the expansion of $\cos(A - B)$. See marking instructions.