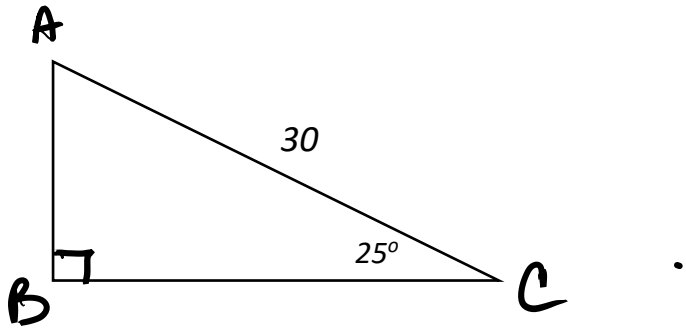
3.3 – Cosine Law

Review: **Solve** the given triangle:



Sketch the triangle with the given measurements: $a = 12\,cm$, $b = 27\,cm$ and $\angle C = 42°$.

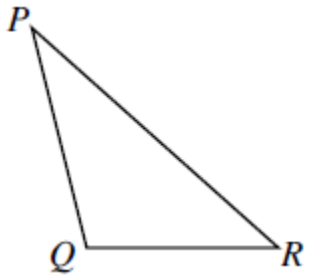
Cosine Law:

Rewrite for other sides:

For ΔJKL:

Example 2: Find $\angle R$ given that $r = 24cm,\ t = 35cm \text{ and } p = 40cm$

Example 3: Find the length, to the nearest tenth of a cm, of the third side of Δ PQR if QP = 3.1cm, QR = 1.7 cm and ∠ PQR = 110°.



Example 4: The diagram shows the plan for a roof, with support beam DE parallel to AB. The local building code requires the angle formed at the peak of a roof to fall within a range of 70° to 80° so that snow and ice will not build up. Will this pass the local building code?