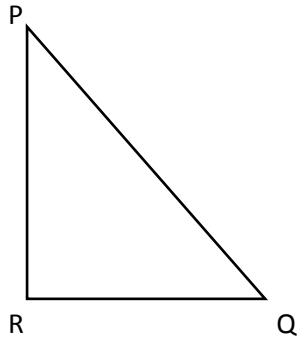


Answer on Question #61238 – Math – Trigonometry

Question

Triangle PQR has a right angle at R. The length of side PR is 9.8 cm, and the length of side QR is 6 cm. Sketch triangle PQR, and find $\angle PQR$, giving your answer correct to the nearest degree.



Solution

Given:

$$\angle PRQ = 90^\circ, |PR| = 9.8 \text{ cm}, |QR| = 6 \text{ cm}$$

Find $\angle PQR$

$$PQ = \sqrt{|PR|^2 + |QR|^2} = \sqrt{9.8^2 + 6^2} = \sqrt{132.04} \approx 11.49 \text{ (cm)},$$

$$\sin \angle PQR = |PR|/|PQ| = 9.8/\sqrt{132.04} \approx 0.853,$$

$$\angle PQR = \sin^{(-1)} 0.853 \approx 58.52^\circ \approx 59^\circ.$$

Answer: 59° .