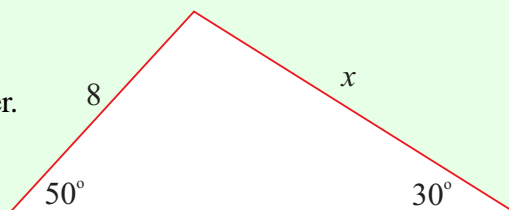


TRIGONOMETRY (Q 5, PAPER 2)

2011

5. (a) Use the sine rule to calculate the value of x in the diagram.
Give your answer correct to the nearest integer.



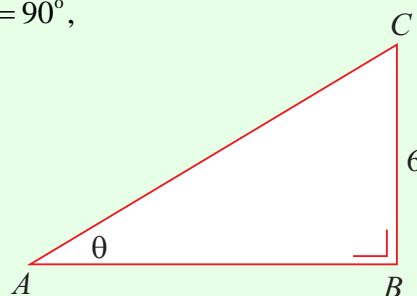
- (b) In the triangle ABC , $|BC| = 6$ cm, and $|\angle ABC| = 90^\circ$,

$$|\angle CAB| = \theta \text{ and } \sin \theta = \frac{3}{5}.$$

- (i) Find $|AC|$.

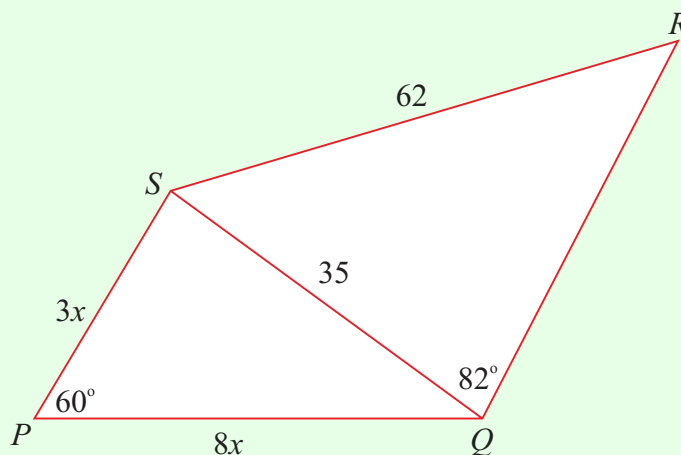
- (ii) Find $|AB|$.

- (iii) Verify that $\cos^2 \theta + \sin^2 \theta = 1$.



- (c) $PQRS$ is a quadrilateral with diagonal $[SQ]$.

$$|RS| = 62, |SQ| = 35, |\angle SQR| = 82^\circ, |\angle SPQ| = 60^\circ, |SP| = 3x \text{ and } |PQ| = 8x.$$



- (i) Find $|\angle QRS|$, correct to the nearest degree, given that $0^\circ \leq |\angle QRS| \leq 90^\circ$.

- (ii) Find the value of x .

ANSWERS

5 (a) $x = 12$

(b) (i) 10 cm

(ii) 8 cm

(c) (i) 34°

(ii) $x = 5$