20. The diagram shows triangle PQR.

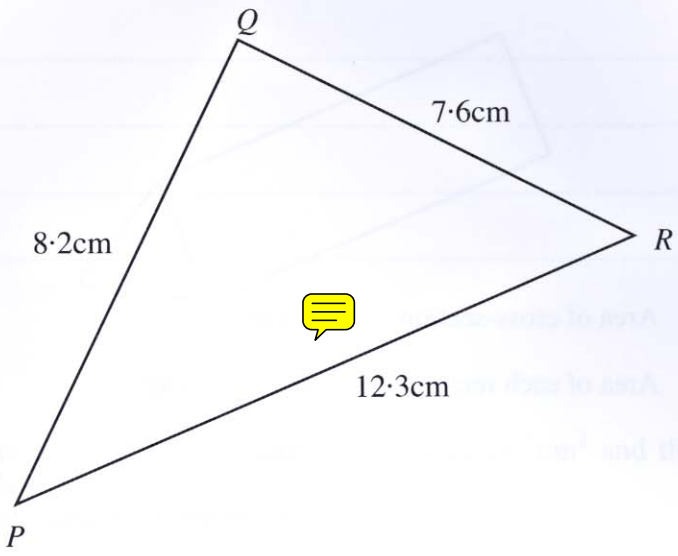

Diagram not drawn to scale.

The triangle PQR is such that $QR = 7{\cdot}6\,\text{cm}$, $PR = 12{\cdot}3\,\text{cm}$ and $PQ = 8{\cdot}2\,\text{cm}$.

(a) Find the size of $P\hat{Q}R$.

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[3]

(b) Find the area of triangle PQR.

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[2]

17. $PQRS$ is a quadrilateral.

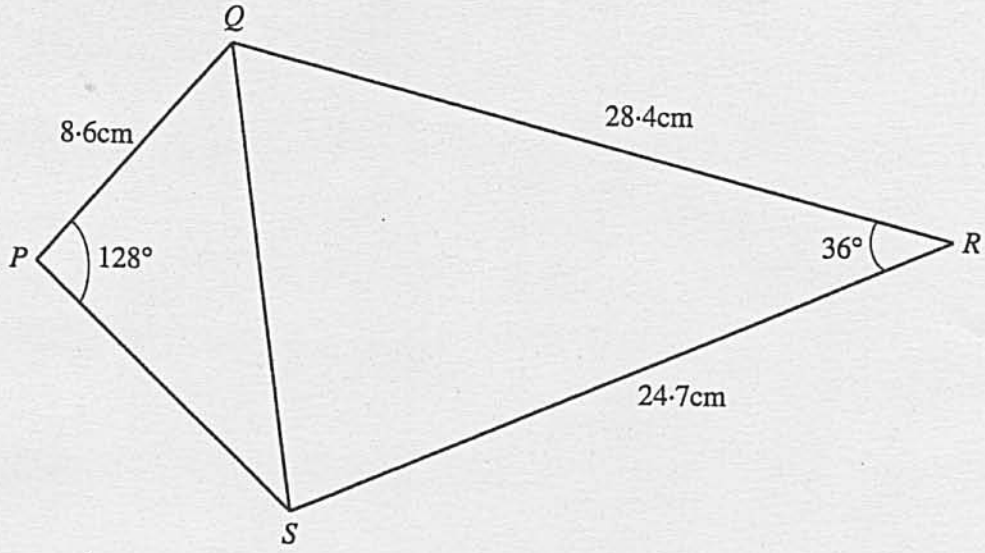

Diagram not drawn to scale.

$\hat{SPQ} = 128°$ and $\hat{QRS} = 36°$.

$PQ = 8{\cdot}6\,\text{cm}$, $QR = 28{\cdot}4\,\text{cm}$ and $SR = 24{\cdot}7\,\text{cm}$.

Find the size of $\hat{PSQ}$.

[6]

7.

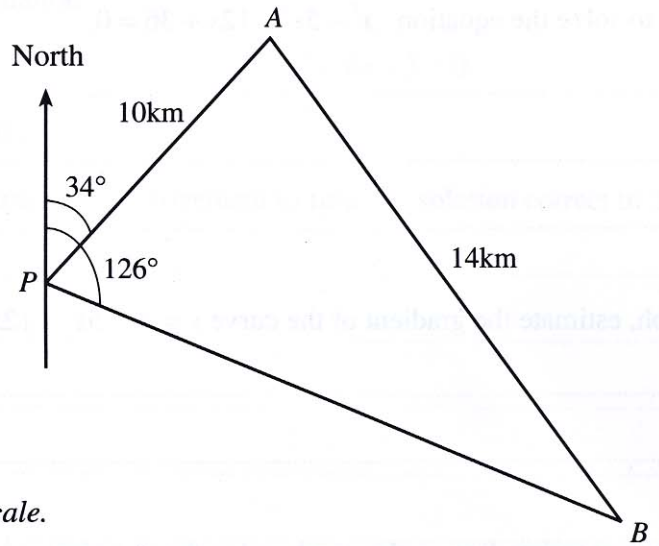

Diagram not drawn to scale.

Two ships *A* and *B* sail from port *P*.
Ship *A* sails out of the port on a bearing of 034° (N34°E) and ship *B* sails out of the port on a bearing of 126° (S54°E).
When ship *A* is 10 km from port *P*, ship *B* is 14 km from ship *A*.
Calculate the bearing of ship *A* **from** ship *B* at this time.

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[3]

18. The diagram shows triangle ABC.

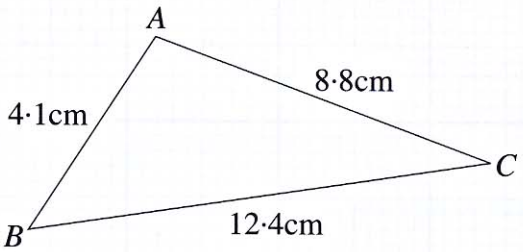

Diagram not drawn to scale.

Given that $AB = 4{\cdot}1$ cm, $BC = 12{\cdot}4$ cm and $AC = 8{\cdot}8$ cm, calculate $B\hat{A}C$.

[3]

18. The diagram shows triangle ABC.
The point D is on the side BC of the triangle.

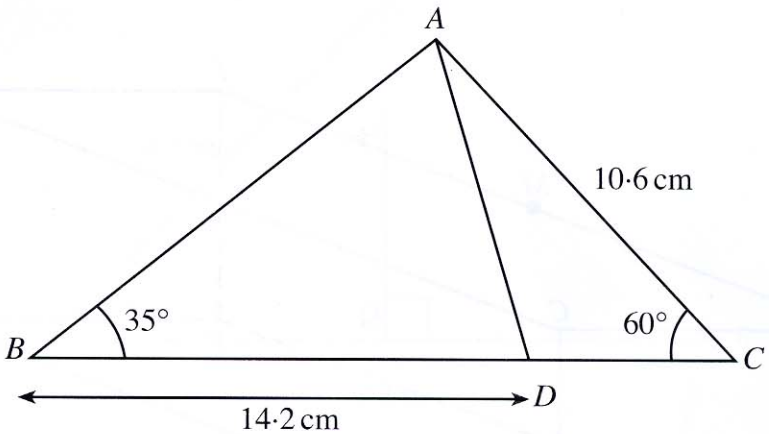

Diagram not drawn to scale.

Given that $A\hat{B}C = 35°$, $A\hat{C}B = 60°$, $AC = 10{\cdot}6\,\text{cm}$ and $BD = 14{\cdot}2\,\text{cm}$, find the length of AD.

[6]

19. The diagram shows quadrilateral $PQRS$.

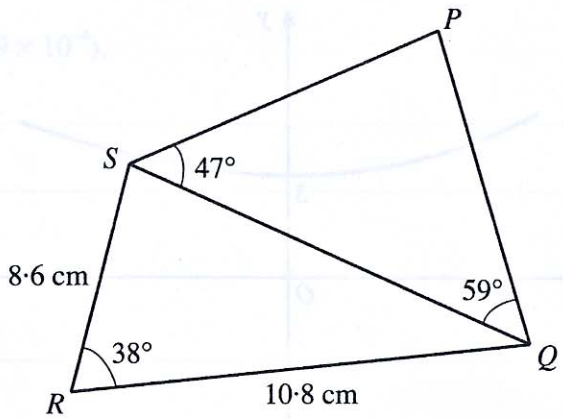

Diagram not drawn to scale.

Given that $S\hat{R}Q = 38°$, $P\hat{S}Q = 47°$, $P\hat{Q}S = 59°$, $SR = 8{\cdot}6$ cm and $QR = 10{\cdot}8$ cm, find the length of PQ.

[6]