

12. Going home from school, Jerry takes a bus journey of 7.2 km. The bus travels at an average speed of 36 km/h.

(a) Calculate the time taken for the bus journey. [2]

He then walks the remaining 1.2 km to his home in 20 minutes.

(b) Calculate his average walking speed in km/h. [3]

(c) Calculate Jerry's average speed for the entire journey from school to his home. [3]

Total Distance Traveled =

Total Time Taken =

Average Speed =

12. For the formula $s = \sqrt{\frac{w - 10e}{m}}$

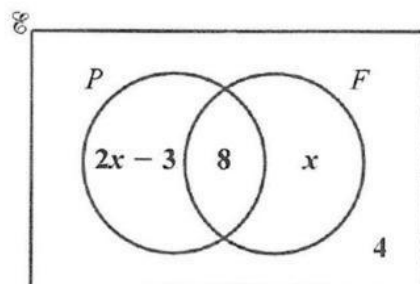
(a) determine the value of s when $w = 450$, $e = 13$ and $m = 5$, [3]

(b) make e the subject of the formula. [4]

$e =$ —

12. A class of 30 students were asked if they studied Physics or French. The Venn diagram below shows their responses.

$\mathcal{E} = \{\text{students in the class}\}$
 $F = \{\text{students who study French}\}$
 $P = \{\text{students who study Physics}\}$



(a) How many students study neither Physics nor French? [1]

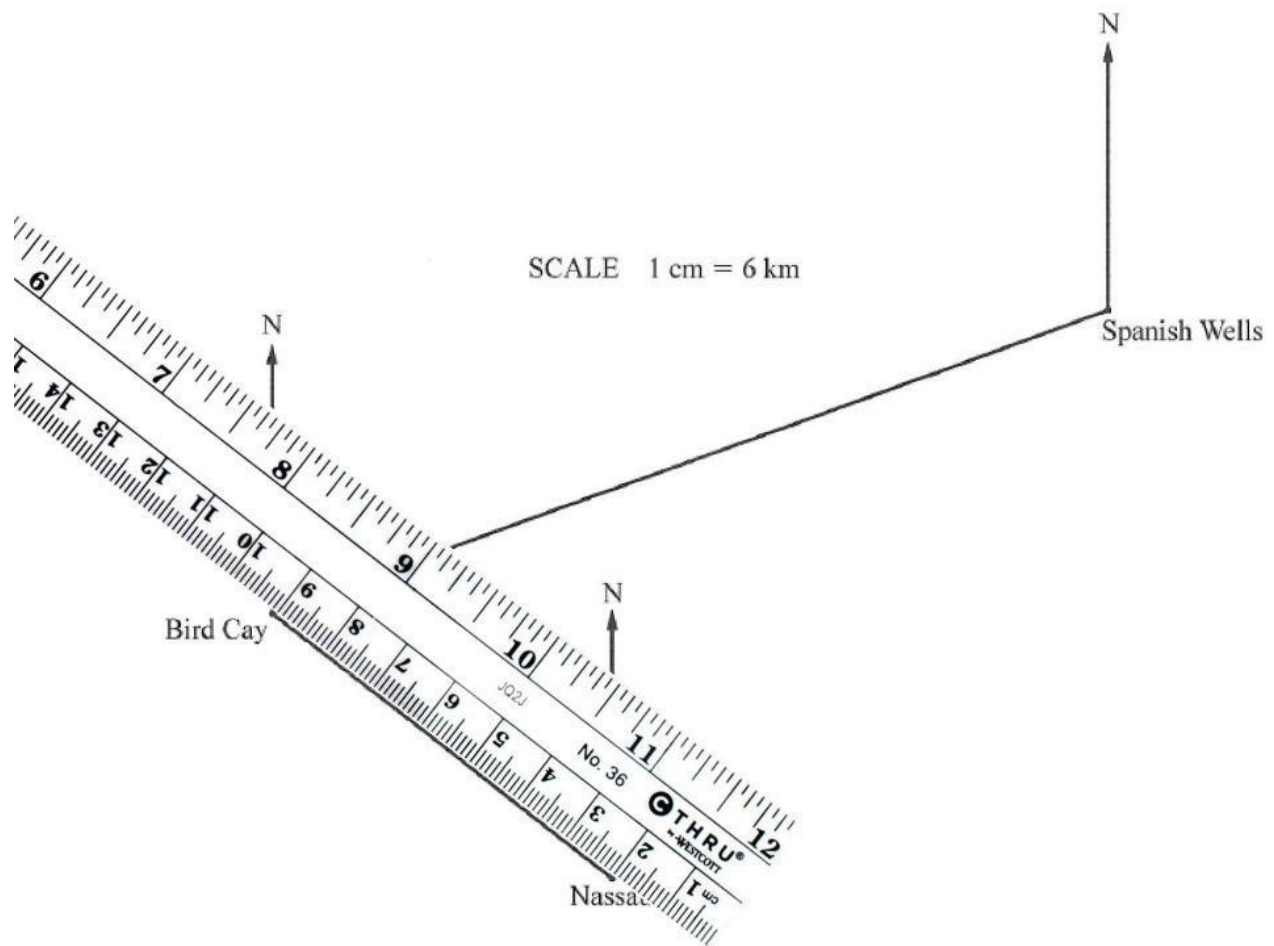
(b) Calculate the value of x . [3]

Equation for Components of the Venn Diagram

$x =$

(c) Use your value of x to calculate the number of students who study Physics only. [1]

12. The scale drawing below shows the relative distances and directions of Bird Cay, Nassau, and Spanish Wells to each other.

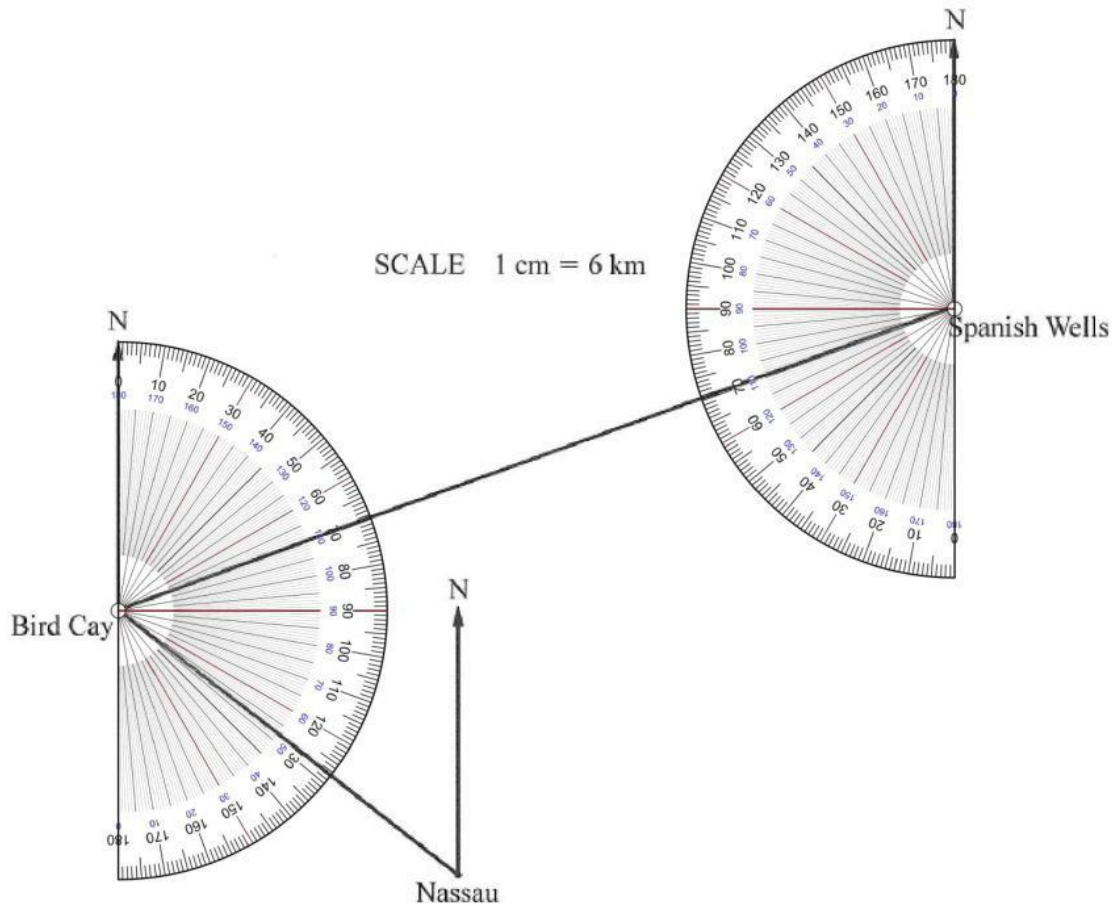


- (a) Given a scale of 1 cm = 6 km, measure and state
- (i) the distance, in km, between Bird Cay and Nassau, [2]

Measure Distance (cm) =

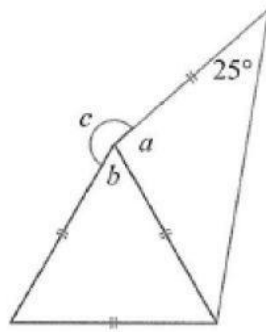
Actual Distance (km) =

12. The scale drawing below shows the relative distances and directions of Bird Cay, Nassau, and Spanish Wells to each other.



- (a) Given a scale of 1 cm = 6 km, measure and state
- (i) the bearing of Nassau from Bird Cay, [1]
 - (ii) the bearing of Bird Cay from Spanish Wells. [2]
- (b) Andros Town is 45 km from Nassau. If this information were included in the above diagram, calculate the distance on the drawing in cm. [1]

12. (a)



NOT TO SCALE

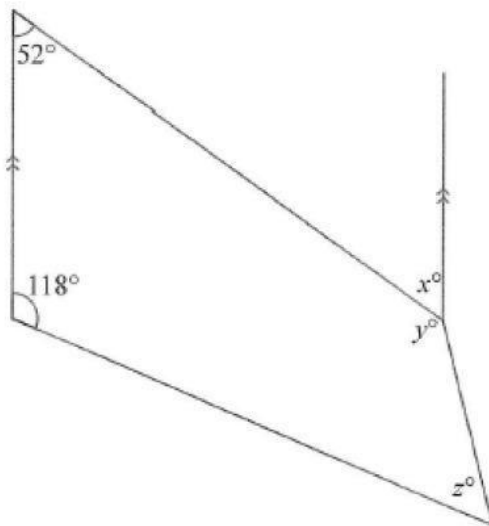
Find the size of the following angles.

(i) a [1]

(ii) b [1]

(iii) c [1]

(b)



NOT TO SCALE

In the above diagram, $y = 2x$.

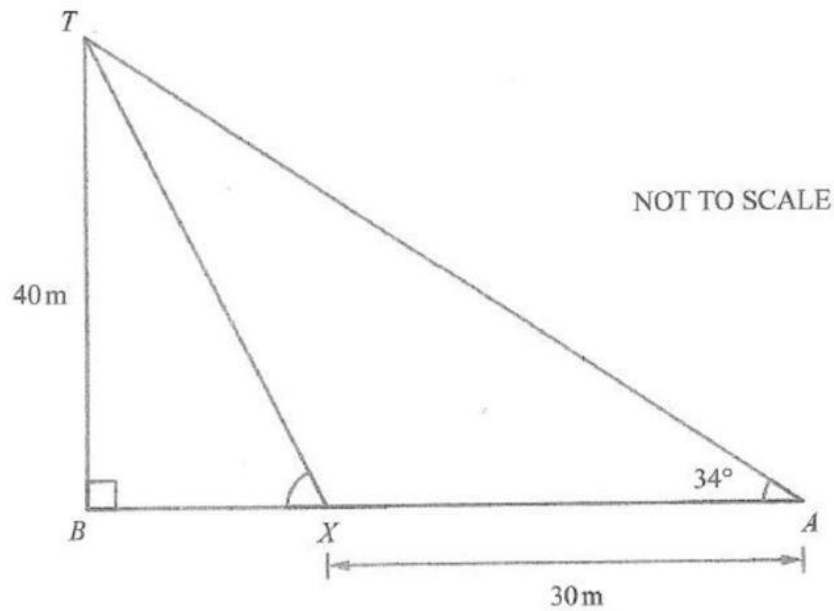
Find the size of the following angles.

(i) x [1]

(ii) y [1]

(iii) z [1]

12.



A 40 m tower stands at point B and a surveying team is standing at point A .

They measure the angle to the top (T) of the tower as 34° , as shown in the diagram.

In this question, give your answers to the nearest whole number.

- (a) Find the distance BA . [3]

Trig Ratio Needed =

Distance of BA =

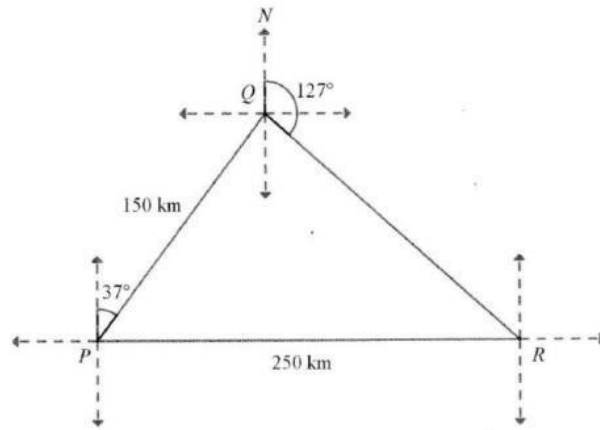
The survey team then moves forward 30m to point X .

- (b) Calculate length BX . [1]

- (c) Calculate length TX . [3]

- (d) Find the size of \hat{BXT} . [3]

12.



NOT TO SCALE

Q is 150 km from P on a bearing of 037° .

R is 250 km due East of P .

R is on a bearing of 127° from Q .

- (a) Show that the interior angle PQR is 90° . [2]

Angle Adjacent to $127 =$

Angle Alternate to $37 =$

- (b) State the bearing of P from Q . [1]
- (c) Calculate the distance QR . [3]
- (d) State the bearing of Q from R . [2]