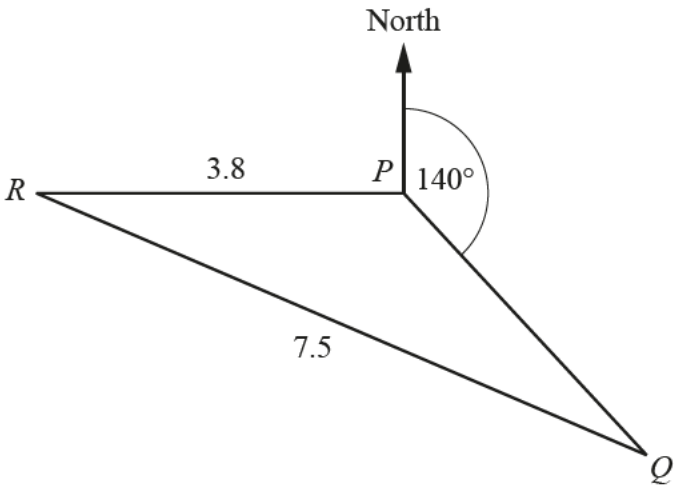
1. Nov/2021/Paper_21/No.4

(a)



NOT TO SCALE

The diagram shows the positions of three villages, P, Q and R.
R is due west of P and Q is on a bearing of 140° from P.
$PR = 3.8$ km and $QR = 7.5$ km.

(i) Calculate angle PRQ.

Angle PRQ = ... [4]

(ii) Work out the bearing of R from Q.

..... [2]

(b) The distance by road from village P to village T is 16.5 km.

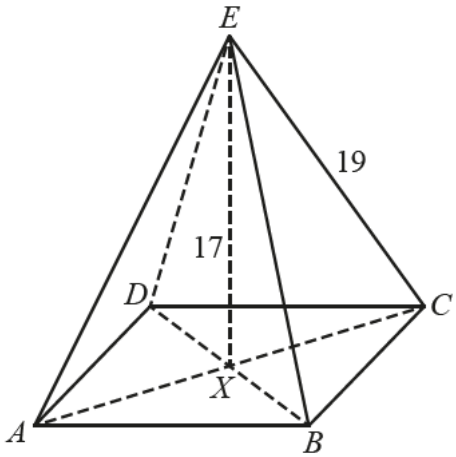
Kwesi leaves village P at 10 30 and drives to village T at an average speed of 45 km/h.
He stops in village T for 15 minutes.
He then drives back to village P and arrives there at 11 35.

Calculate Kwesi's average speed, in km/h, for the journey back from village T to village P.

..... km/h [4]

2. Nov/2021/Paper_21/No.10b

(b) **[Volume of a pyramid = $\frac{1}{3}$ × base area × height]**



The diagram shows a square-based pyramid $ABCDE$.
Vertex E is vertically above X, the centre of the square base.
The height of the pyramid, EX, is 17 cm.
$EC = 19$ cm.

(i) Show that the length of the base is 12 cm.

[4]

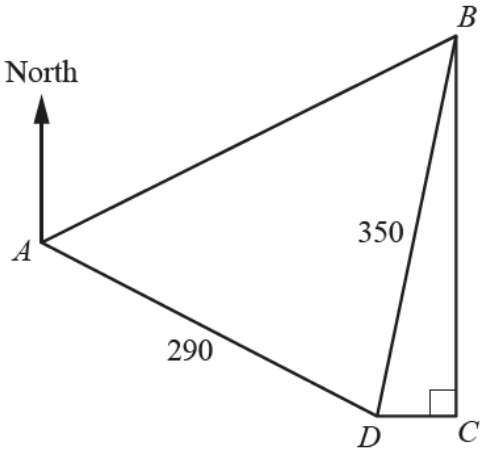
(ii) Calculate the volume of the pyramid.

..... cm^3 [2]

(iii) Calculate angle *CBE*.

Angle *CBE* = ... [3]

3. Nov/2021/Paper_22/No.10



NOT TO SCALE

ABCD is a field on horizontal ground.

The bearing of *B* from *A* is 070°.
The bearing of *D* from *A* is 125°.
C is due south of *B* and due east of *D*.
AD = 290 m and *BD* = 350 m.

(a) Calculate the bearing of *D* from *B*.

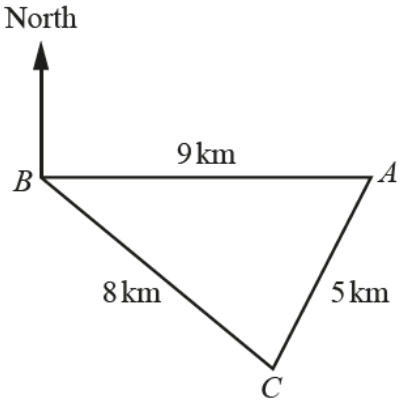
..... [4]

(b) A vertical mast is positioned at D.
The angle of elevation of the top of the mast from A is 10°.

Calculate the angle of elevation of the top of the mast from C.

..... [5]

4. June/2021/Paper_12/No.9



NOT TO SCALE

The sketch shows the positions of three villages, A, B and C.
A is due east of B.

(a) **Use a ruler and compasses only** to complete the scale drawing of triangle ABC.
Use a scale of 1 cm to represent 1 km.

Scale: 1 cm to 1 km

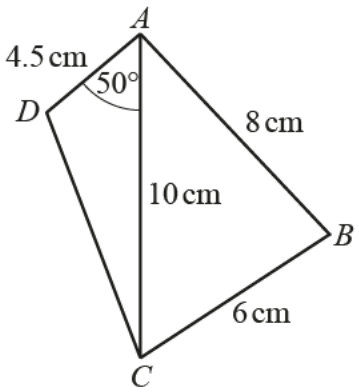
[2]

(b) Measure the bearing of C from B.

..... [1]

5. June/2021/Paper_21/No.4

(a) The diagram shows a sketch of quadrilateral $ABCD$.



NOT TO SCALE

(i) Construct an accurate drawing of $ABCD$.
AC has been drawn for you.

[3]

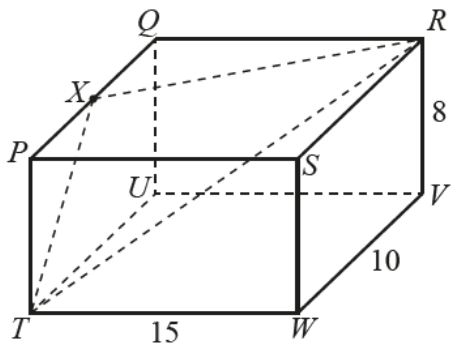
(ii) Measure $A\hat{D}C$.

..... [1]

(iii) By taking a suitable measurement from your diagram, find the perimeter of quadrilateral $ABCD$.

..... cm [1]

(b)



The diagram shows a cuboid.
$TW = 15$ cm, $WV = 10$ cm and $RV = 8$ cm.

(i) Show that $TR = 19.7$ cm, correct to 1 decimal place.

[3]

(ii) X is the midpoint of PQ.

Calculate $T\hat{R}X$.

$T\hat{R}X =$ ..... [5]