#463393

Construct the following quadrilaterals.

(i) Quadrilateral $ABCD$

$AB = 4.5cm$

$BC = 5.5cm$

$CD = 4cm$

$AD = 6cm$

$AC = 7cm$

(ii) Quadrilateral $JUMP$

$JU = 3.5cm$

$UM = 4cm$

$MP = 5cm$

$PJ = 4.5cm$

$PU = 6.5cm$

(iii) Parallelogram $MORE$

$OR = 6cm$

$RE = 4.5cm$

$EO = 7.5cm$

(iv) Rhombus $BEST$

$BE = 4.5cm$

$ET = 6cm$

Solution

1)

1. Draw AD of length 6cm.

2. Cut an arc of 7 cm from A and 4 cm from D. Their point of intersection is C.

3. Cut an arc of 4,5 cm from A and 5.5 cm from C. Their point of intersection is B.

4. Join all the points.

ABCD is the required quadrilateral.

2)

1. Draw UM of length 4 cm.

2. Cut an arc of 6.5 cm from U and 5 cm from M. Their point of intersection is P.

3. Cut an arc of 3.5 cm from U and 4.5 cm from P. Their point of intersection is J.

4. Join all the points.

JUMP is the required quadrilateral.

3)

1. Draw OR of length 6cm.

2. Cut an arc of 7.5 cm from O and 4.5 cm from R. Their point of intersection is E.

3. Cut an arc of 4.5 cm from O and 6 cm from E. Their point of intersection is M.

4. Join all the points.

MORE is the required parallelogram.

4)

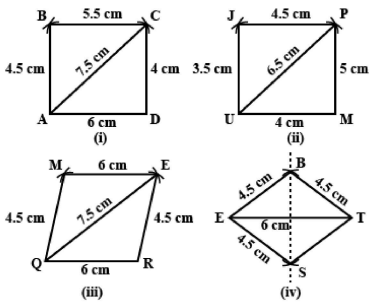
1. Draw ET of length 6 cm.

2. Draw its perpendicular bisector.

3. Cut an arc of 4.5 cm from E on the perpendicular bisector both above and below ET, the point of intersections are B and S.

4. Join all the points.

BEST is the required rhombus



#463394

Construct following quadrilaterals

(i) Quadrilateral $LIFT$

$LI = 4\ cm$

$IF = 3\ cm$

$TL = 2.5\ cm$

$LF = 4.5\ cm$

$IT = 4\ cm$

(ii) Quadrilateral $GOLD$

$OL = 7.5\ cm$

$GL = 6\ cm$

$GD = 6\ cm$

$LD = 5\ cm$

$OD = 10\ cm$

(iii) Rhombus $BEND$

$BN = 5.6\ cm$

$DE = 6.5\ cm$

Solution

1)

1. Draw LI of length 4 cm.

2. Cut an arc of 2.5 cm from L and 4 cm from I. Their point of intersection is T.

3. Cut an arc of 4.5 cm from L and 3 cm from I. Their point of intersection is F.

4. Join all the points.

LIFT is the required quadrilateral.

2)

1. Draw OL of length 7.5 cm.

2. Cut an arc of 10 cm from O and 5 cm from L. Their point of intersection is D.

3. Cut an arc of 7.5 cm from L and 6 cm from D. Their point of intersection is G.

4. Join all the points.

GOLD is the required quadrilateral.

3)

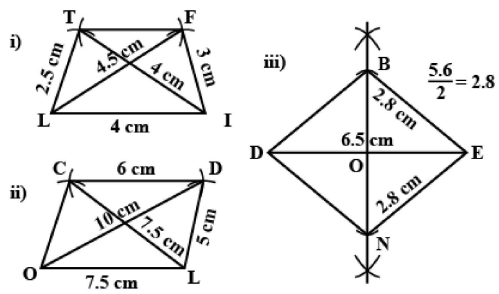
1. Draw DE of length 6.5 cm.

2. Draw a perpendicular bisector of DE. The point of intesection is O

3. Cut an arc of 2.8 cm from O on the perpendicular bisector both above and below DE. The points of intersection are B and N.

4. Join all the points

BEND is the required rhombus.



#463395

Construct the following quadrilaterals

(i) Quadrilateral $MORE$

$MO = 6\ cm$

$OR = 4.5\ cm$

$\angle M = 60^\circ$

$\angle O = 105^\circ$

$\angle R = 105^\circ$

(ii) Quadrilateral $PLAN$

$PL = 4\ cm$

$LA = 6.5\ cm$

$\angle P = 90^\circ$

$\angle A = 110^\circ$

$\angle N = 85^\circ$

(iii) Parallelogram $HEAR$

$HE = 5\ cm$

$EA = 6\ cm$

$\angle R = 85^\circ$

(iv) Rectangle $OKAY$

$OK = 7\ cm$

$KA = 5\ cm$

Solution

1)

1. Draw MO of length 6 cm.

2. Draw an angle of 105 degree on O and cut an arc of 4.5 cm on it. The point of intersection is R.

3. Draw an angle of 105 degree on R and draw an angle of 60 degree on M. Their point of intersection is E.

4. Join all the points.

$MORE$ is the required quadrilateral.

2)

1. Draw PL of length 4 cm.

2. Calculate the value of $\angle L$, which comes out to be 75^o.

Draw an angle of 75^o on L and cut an arc of 6.5 cm on it. The point of intersection is A.

3. Draw an angle of 110^o on A and draw an angle of 90^o on P. Their point of intersection is N.

4. Join all the points.

$PLAN$ is the required quadrilateral.

3)

1. Draw EA of length 6 cm.

2. Draw an angle of 85^o on E and cut an arc of 5 cm on it. The point of intersection is H. ($\angle R = \angle E = 85^o$ and $\angle H = 95^o$)

3. Draw an angle of 95^o on H and cut an arc of 6 cm. Their point of intersection is R.

4. Join all the points.

$HEAR$ is the required parallelogram.

4)

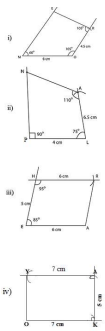
1. Draw OK of length 7 cm.

2. Draw an angle of 90^o on K and cut an arc of 5 cm on it. The point of intersection is A.

3. Draw an angle of 90^o on A and cut an arc of 7 cm from A. The point of intersection is Y.

4. Join all the points.

$OKAY$ is the required rectangle.



#463397

Construct the following quadrilaterals

(i) Quadrilateral $DEAR$

$DE = 4\ cm$

$EA = 5\ cm$

$AR = 4.5\ cm$

$\angle E = 60^\circ$

$\angle A = 90^\circ$

(ii) Quadrilateral $TRUE$

$TR = 3.5\ cm$

$RU = 3\ cm$

$UE = 4\ cm$

$\angle R = 75^\circ$

$\angle U = 120^\circ$

Solution

1)

1. Draw EA of length $5\ cm$.

2. Draw an angle of 60 degree on E and cut an arc of $4\ cm$ on it. The point of intersection is D.

3. Draw an angle of 90 degree on A and cut an arc of $4.5\ cm$ on it. The point of intersection is R.

4. Join all the points.

$DEAR$ is the required quadrilateral.

2)

1. Draw RU of length $3\ cm$.

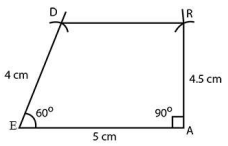
2. Draw an angle of 75 degree on R and cut an arc of $3.5\ cm$ on it. The point of intersection is T.

3. Draw an angle of 120 degree on U and cut an arc of $4\ cm$. The point of intersection is E.

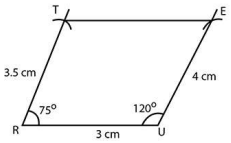
4. Join all the points.

$TRUE$ is the required quadrilateral.

i)



ii)



#463398

Draw the following:

The square READ with $RE = 5.1$ cm.

Solution

We know sides of square are equal. Thus $RE = EA = AD = RD = 5.1$cm.

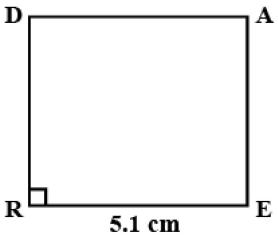
First draw a line segment, then measure 5.1 cm in rounder and mark the arcs. This is line $RE = 5.1$ cm.

Then using protactor mark 90^0 and again mark 5.1 cm on that line segment. This is EA.

Again mark 5.1 cm in protactor and make line AD.

At last join points D and R.

This completes a square.



#463399

Draw the following:

A rhombus whose diagonals are $5.2\ cm$ and $6.4\ cm$ long.

Solution

1. Draw a line segment $AC = 5.2$ cm.

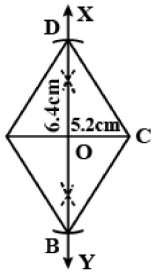
2. Draw XY, the perpendicular bisector of AC.

3. From XY, cut-off $OD = \frac{1}{2}(6.4) = 3.2$cm.

4. Similarly, cut-off $OB = \frac{1}{2}(6.4) = 3.2$cm.

5. Join AD, $DCCB$ and BA.

Thus, $ABCD$ is the required rhombus.



#463401

Draw the following:

A rectangle with adjacent sides of lengths $5\ cm$ and $4\ cm$.

Solution

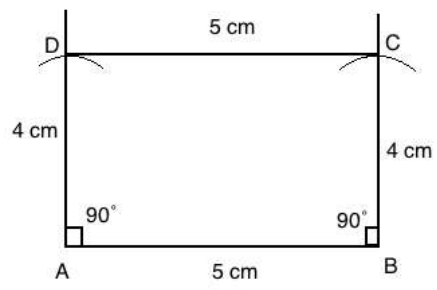
Steps:

1) Draw a straight line AB of length $5\ cm$.

2) Draw perpendicular lines at A and B using protractor.

3) Using compass cut arc at the perpendicular from A and B of lengths $4\ cm$.

4) Join these cuts with a line CD as shown in figure.



#463402

Draw the following

A parallelogram OKAY where $OK = 5.5\ cm$ and $KA = 4.2\ cm$. Is it unique?

Solution

Only two dimensions of the parallelogram are given.

Hence, more than one parallelograms can be constructed.

So, not unique.