TOPFLIGHT COLLEGE

JUNIOR & SENIOR SECONDARY SCHOOL
55, **YETUNDE BROWN STREET,**
IFAKO-GBAGADA, LAGOS STATE.
(08035773899, 08160591190)

REVISION TOPIC: CONSTRUCTION FOR: SS1-3

1. Using a ruler and a pair of compasses only:

a. Construct:

i. A △ABC such that $|AB| = 5cm$, $|AC| = 7.5cm$ and ∠CAB = 120°

ii. The locus L_1 of points equidistant from A and B

iii. The locus L_2 of points equidistant from $|AB|$ and $|AC|$, which passes through triangle ABC

b. Label the point P where L_1 and L_2 intersect

c. Measure $|CP|$

2. Using a ruler and a pair of compasses only, Construct a triangle ABC, given that $|AB| = 8.4cm, |BC| = 6.5cm$ and $\angle ABC = 30°$. Construct the locus

a. L_1 of points equidistant from $\overline{AB}$ and $\overline{BC}$, and within the triangle ABC

b. L_2 of points equidistant from A and B

c. Locate the point of intersection of L_1 and L_2. Measure $|AP|$

3. ABCD is a trapezium in which AB//DC, $|AB| = 8cm, \angle ABC = 60°, |BC| = 5.5cm$ and $|BD| = 8.3cm$

a. Using a ruler and a pair of compasses only, Construct:

i. The trapezium ABCD

ii. A rectangle PQCD, where P, Q are two points on AB

b. PABS which is equal in area to PQRS in (a) above and on the same side of PS as PQRS.

c. Measure $|PA|$

4. (a) Using a ruler and a pair of compasses only, Construct

i. A triangle XYZ in which $|YZ| = 8cm$, $X\hat{Y}Z$ = 60° and $X\hat{z}Y$ = 75°. Measure XY

ii. The locus L_1, of points equidistant from Y and Z

iii. The locus L_2 of points equidistant from YX and YZ

(b) Measure YQ where Q is the point of intersection of L_1 and L_2

5. Using a ruler and a pair of compasses only:

(a) Construct

i. △XYZ such that $|XY|$ = 10cm, ∠XYZ = 30°and ∠YXZ = 45°,

ii. Locus L_1, of points equidistant from Y and Z

iii. Locus L_2, of points parallel to XY through Z

(b) Locate point M, the point of intersection of L_1 and L_2

(c) Measure ∠ZMY

6. (a) Using a ruler and a pair of compasses only, Construct a:

(i) Trapezium WXYZ such that /WX/ = 8cm, /XY/ = 5.5cm, /XZ/ = 8.3cm, ∠WXY = 60°and WX//ZY

(ii) Rectangle PQYZ where P and Q are on $\overline{WX}$

(b) Measure (i) QX (ii) ∠XWZ

7. (a) Using a ruler and a pair of compasses only, Construct:

i. The trapezium WXYZ such that /WX/ = 10.2cm, /XY/ = 5.6cm, /YZ/ = 5.8cm, ∠WXY = 60° and $\overline{WX}$ *is parallel to* $\overline{YZ}$

ii. A perpendicular from Z to meet $\overline{WX}$ at N

(b) Measure (i) /WZ/ (ii) /ZN/

8. Three towns X, Y and Z are such that Town Y is 20km from X and 22Km from Z. A Health centre is to be built by the Government to serve the three towns. The centre is to be located such that patients from X and Y will always travel equal distance to access the Health Centre while patients from Z will travel exactly 10km to reach the Health centre.

(a) Using a scale of 1cm to 2km, find By construction, using a pair of compasses and ruler only, the possible positions the Health Centre can be located

(b) In how many possible locations can the Health Centre be built?

(c) Measure and record the distances of the distances of the locations from town X

(d) Which of these locations would be convenient for all the three towns?

9. Using a ruler and a pair of compasses only,

(a) Construct a rhombus PQRS of side 7cm and ∠PQR = 60°

(b) Locate point X such that X lies on the locus of points equidistant from PQ and QR and also equidistant from Q and R

(c) Measure /SR

10. Using a ruler and a pair of compasses only,

(a) Construct

i. A quadrilateral PQRS with /PS/ = 6cm, ∠RSP = 90°, /RS/ = 9cm, /QR/ = 8.4cm and /PQ/ = 5.4cm

ii. The bisectors of to meet at X

iii. The perpendicular XT to meet PS at T.

(b) Measure /XT/

11. (a) Using a ruler and a pair of compasses only, Construct

i. Quadrilateral PQRS such that /PQ/ = 10cm, /QR/ = 8cm, /PS/ = 6cm, ∠PQR = 60° and ∠QPS = 75°

ii. The locus L1 of points equidistant from QR and RS

iii. The locus L2 of points equidistant from R and S

(b) Measure /RS/

12. (a) Using a ruler and a pair of compasses only, Construct

(i) A quadrilateral PQRS such that /PQ/ = 7cm, ∠QPS = 60°, $|PS| = 6.5cm,\ \angle PQR = 135°\ and\ |QS| = |QR|$

(ii) Locus L_1 of points equidistant from P and Q

(iii) Locus L_2 of points equidistant from P and S

(iv)

(b) (i) Label the point T where L_1 and L_2 intersect

(ii) With centre T and radius $|TP|$, construct a circle L_3

13. (a) Using a ruler and a pair of compasses only, Construct:

i. A triangle PQR such that $|PQ| = 10cm, |QR| = 7cm\ and\ P\hat{Q}R = 90°$

ii. Locus L_1 of points equidistant from Q and R

iii. Locus L_2 of points equidistant from P and Q

(b) Locate the point O equidistant from P, Q and R

(c) With O as centre, draw the circumcircle of the triangle PQR

(d) Measure the radius of the circumcircle

14. (a) Using a ruler and a pair of compasses only,

(i) Construct △XYZ such that $|XY| = 8cm\ and\ \triangle YXZ = \triangle ZYX = 45°$

(ii) Locate a point P inside the triangle equidistant from XY and XZ, and also equidistant from YX and YZ

(iii) Construct a circle touching the three sides of the triangle

(iv) Measure the radius of the circle.

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ROUGH WORK SHEET

Instruction:

i. ***Show your workings as neatly as possible.***

ii. ***Number your work properly.***