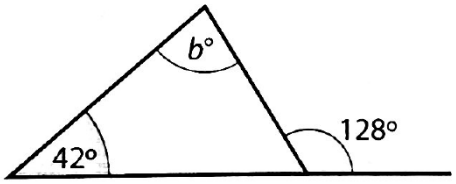
Revision Sheet: Geometry 6th Year OL Maths Due Date:

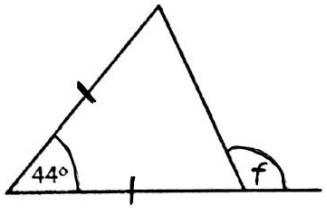
Q1. Find the missing angles in the diagrams below. (Chap 15 Pg 438/439)

a)



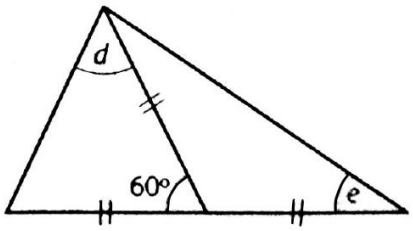
Ans: 86°

b)



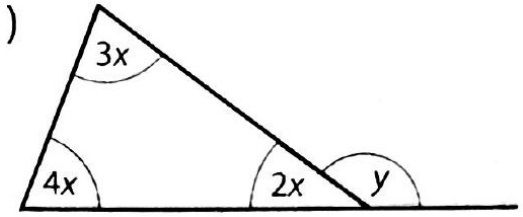
Ans: 112°

c)



Ans: d = 60°, e = 30°

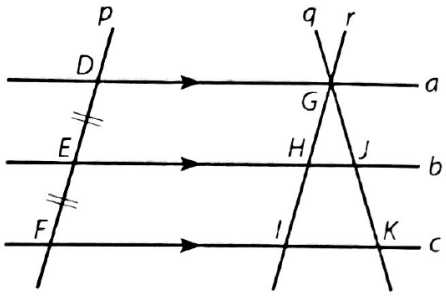
d)



Ans: x = 20°, y = 140°

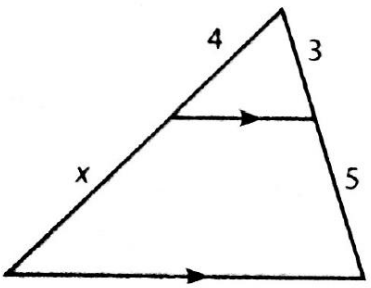
Q2. (Chap 15 Pg 455/456)

a, b and c are parallel lines. P, q and r are three transversals intersecting a, b and c. |DE| = |EF|, |GH| = 8cm and |JK| = 7cm. Find: (i) |HI| (ii) |GJ| Ans: (i) 8cm (ii) 7cm



b) Find the value of x in the diagram below.

Ans: 6.7



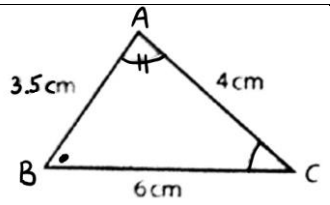
Q3. (Chap 15 Pg 458/459)

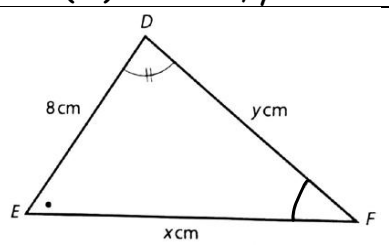
a) (i) Explain why the triangles ABC and DEF are similar.

(ii) Which side of the triangle DEF corresponds to the side [AC]?

(iii) Find the values of x and y.

Ans: (iii) x = 13.7, y = 9.14



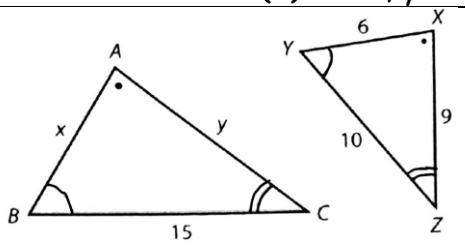


b) The triangles ABC and XYZ are similar.

(i) Which side of the triangle XYZ corresponds to [AB]?

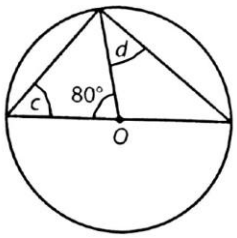
(ii) Find the values of x and y.

Ans: (ii) x = 9, y = 13.5



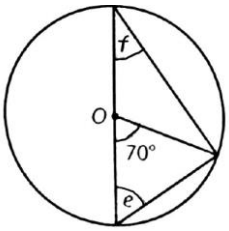
Q4. Find the measure of the missing angles in the diagrams below. (Chap 15 Pg 464/465)

a)



Ans: c = 50°, d = 40°

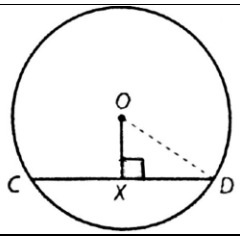
b)



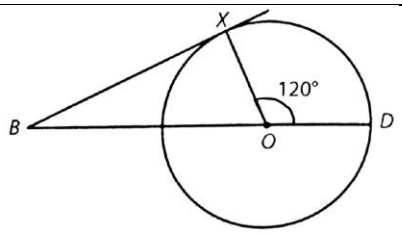
Ans: e = 55°, f = 35°

Q5. (Chap 15 Pg 467/468)

a) In the given diagram, O is the centre of the circle of radius 26cm. OX is perpendicular to CD and |OX| = 10cm. Find |CD|. Ans: 48cm

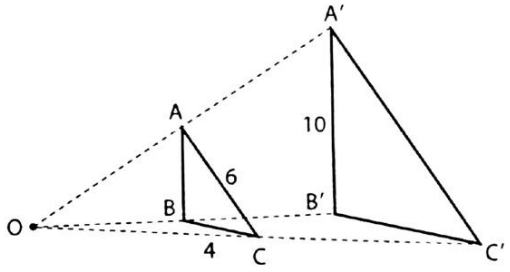


b) In the given figure, BX is a tangent to the circle with centre O.
If |< XOD| = 120°, find |< OBX|. Ans: 30°



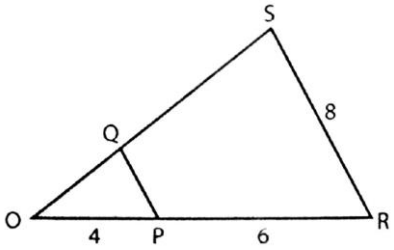
Q6. (Chap 17 Pg 529)

In the diagram below, the triangle A'B'C' is the image of the triangle ABC under an enlargement with centre O and scale factor 2. If |BC| = 4cm, |AC| = 6cm and |A'B'| = 10cm, find: (i) |B'C'| (ii) |A'C'| (iii) |AB| Ans: (i) 8cm (ii) 12cm (iii) 5cm



Q7. (Chap 17 Pg 535)

In the given diagram, the triangle ORS is the image of the triangle OPQ under an enlargement with O as centre. |OP| = 4, |PR| = 6 and |SR| = 8. Draw OPQ and ORS as separate triangles and use these triangles to write down: (i) the scale factor of the enlargement (ii) |PQ| (iii) the ratio |OQ|:|OS| If the area of triangle OPQ = 4 square units, find the area of ORS.



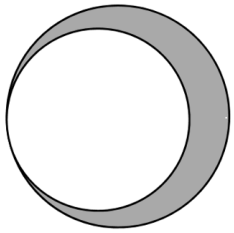
Ans: (i) 2.5 (ii) 3.2 (iii) 2:5 (iv) 25 sq units

Past Exam Questions:

Q8. 2019 Paper 2 Q5

The crescent, shown in the shaded part of the diagram, was created by removing a disc of radius 2·5 cm from a disc of radius 3 cm.

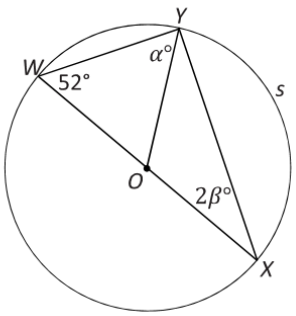
Find the **area** and the **perimeter** of the crescent.
Give each answer correct to two decimal places.



Ans: Area = 8.64cm^2, Perimeter = 34.56cm

Q9. 2019 Paper 2 Q6(b)

In the diagram O is the centre of the circle s.
Find the value of α and the value of β.



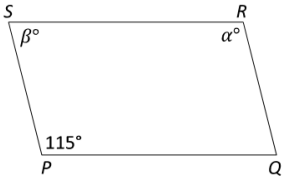
Ans: $\alpha = 52°$, $\beta = 19°$

Q10. 2018 Paper 2 Q6

The diagram shows a parallelogram with vertices P, Q, R, and S.
$|\angle SPQ| = 115°$, $|\angle QRS| = \alpha°$ and $|\angle RSP| = \beta°$.

(i) Write down the value of α and the value of β.

$\alpha =$ _____ $\beta =$ _____



(ii) Explain why the triangle PQR is congruent to triangle RSP.
Give a reason for any statement you make in your explanation.

Ans: (i) $\alpha = 115°$, $\beta = 65°$ (ii) SAS

Q11. 2016 Paper 2 Q6(b)

State which one of the following triangles can **not** be constructed.
Give a reason to support your answer.

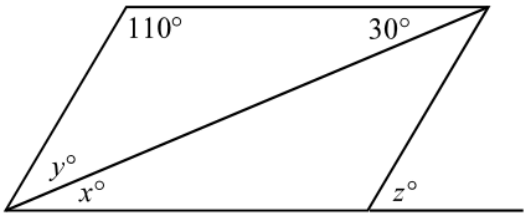
Triangle 1	Triangle 2
Sides of lengths (cm) 3·2, 2·9, 5·4	Sides of lengths (cm) 6, 7, 15

Ans: Triangle 2

Q12. 2015 Paper 2 Q4

(a) The diagram shows a parallelogram, with one side produced.
Use the data on the diagram to find the value of x, of y, and of z.

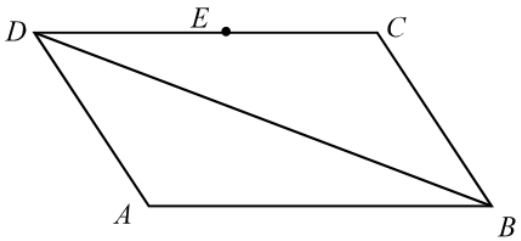
Give a reason for your answer in each case.



(b) The area of the parallelogram $ABCD$ is 480 m^2.

(i) Find the area of the triangle ABD.

$|\triangle ABD| =$ _____



(ii) E is the midpoint of $[CD]$. Find the area of the triangle BCE.

Ans: (a) x = 30°, y = 40°, z = 70° (b)(i) 240m^2 (ii) 120m^2