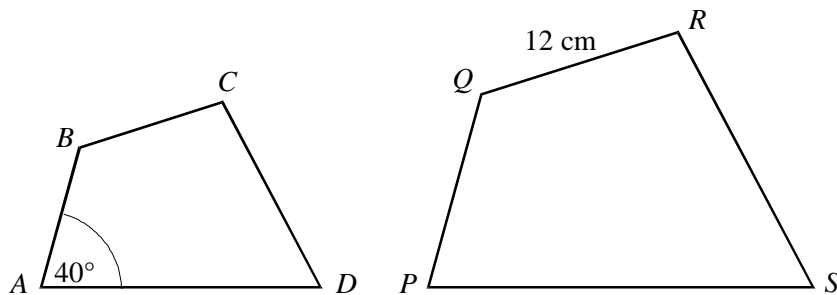


Similarity and Congruence

1. $PQRS$ is an enlargement with scale factor 1.5 of $ABCD$.



Not drawn
accurately

(a) Calculate the length of BC .

.....
.....
.....
.....

Answer $BC =$ cm

(2)

(b) Write down the size of angle QPS .

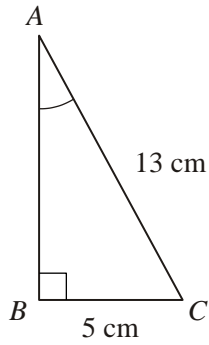
.....

Answer $QPS =$ degrees

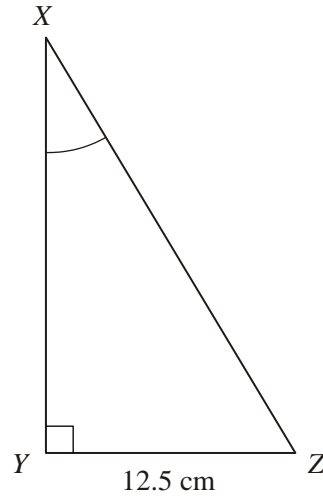
(1)

(Total 3 marks)

2. ABC and XYZ are similar triangles with right angles at B and Y .
 $AC = 13$ cm, $BC = 5$ cm and $YZ = 12.5$ cm



Not drawn accurately



Work out the length of XY .

.....

.....

.....

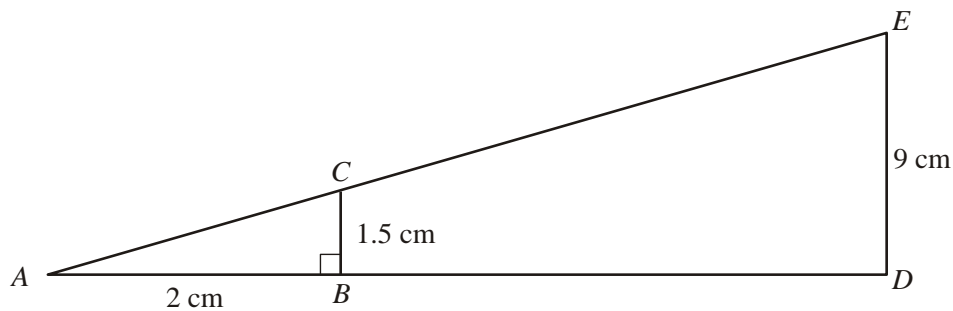
.....

.....

.....

Answer cm
(Total 5 marks)

3. ABC and ADE are similar triangles.
 $BC = 1.5$ cm, $DE = 9$ cm, $AB = 2$ cm



Not drawn accurately

Calculate the length of BD .

.....

.....

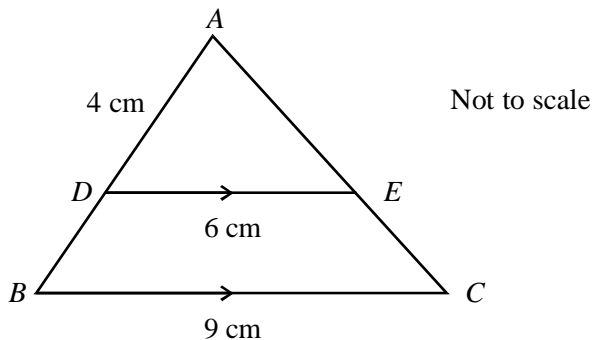
.....

.....

.....

Answer cm
 (Total 3 marks)

4. Triangles ADE and ABC are similar.
 DE is parallel to BC .
 $AD = 4$ cm, $DE = 6$ cm and $BC = 9$ cm.



Calculate the length of BD .

.....

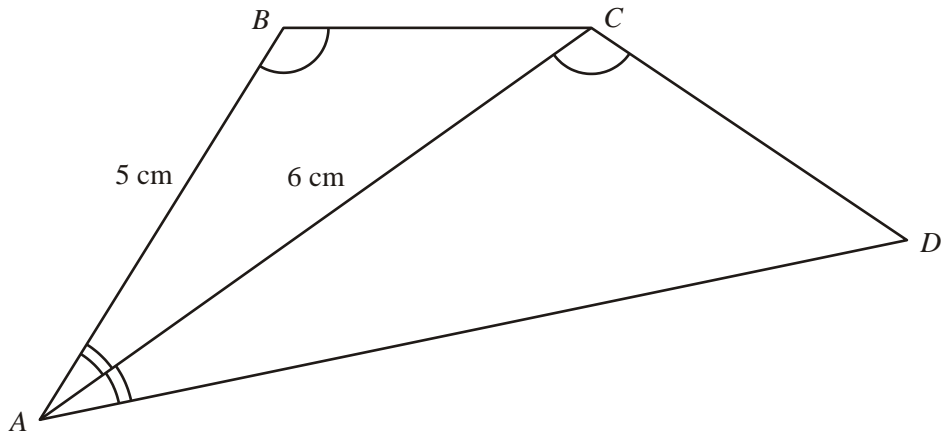
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Answer cm
 (Total 3 marks)

5. Triangles ABC and ACD are similar.
 $AB = 5$ cm and $AC = 6$ cm.



Not drawn accurately

Calculate the length of AD .

.....

.....

.....

.....

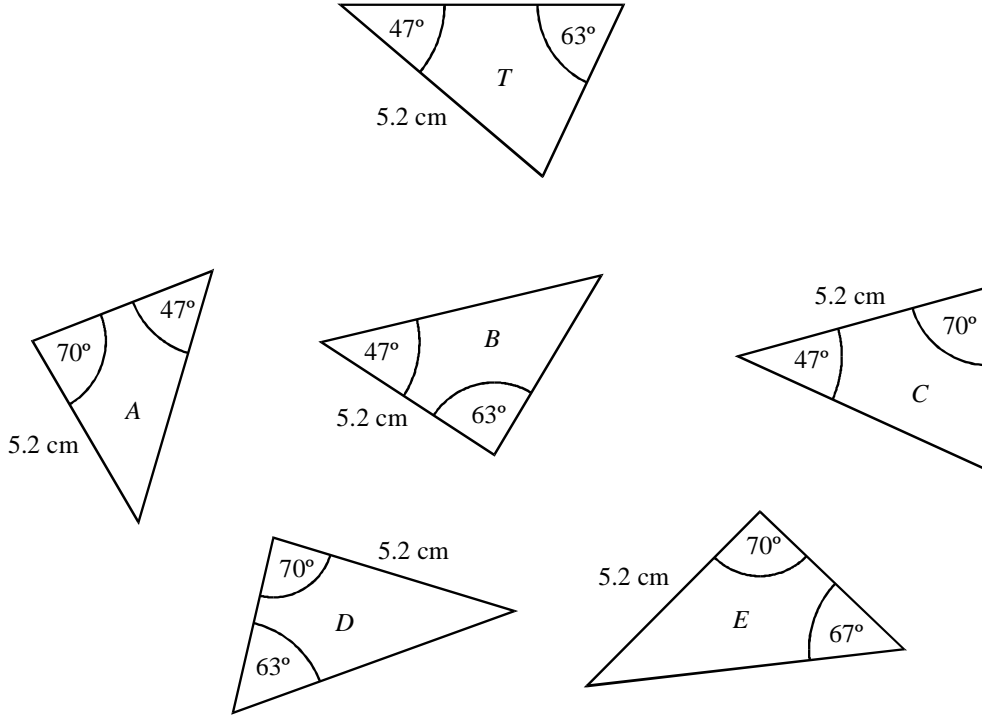
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Answer.....cm

(Total 3 marks)

6. Triangle T and triangles A, B, C, D and E are not drawn accurately.

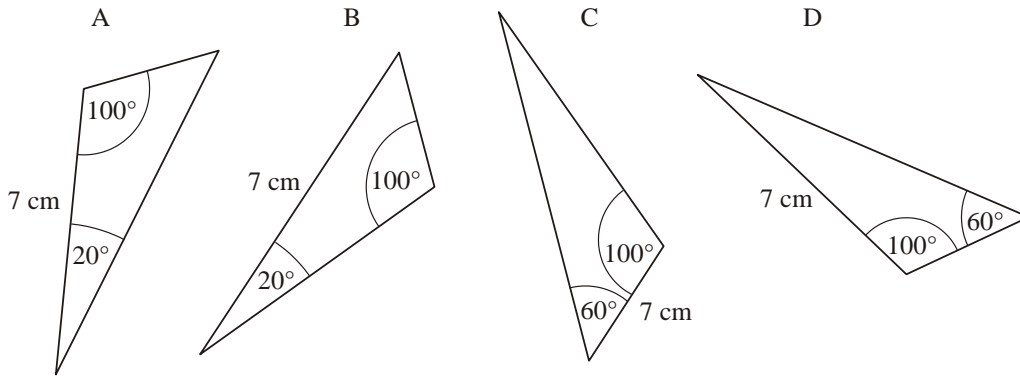


Which two of triangles A, B, C, D and E are congruent to triangle T ?

Answer Triangle and Triangle

(Total 2 marks)

7. (a) Which two of these triangles are congruent?



Not drawn accurately

Answer and

(1)

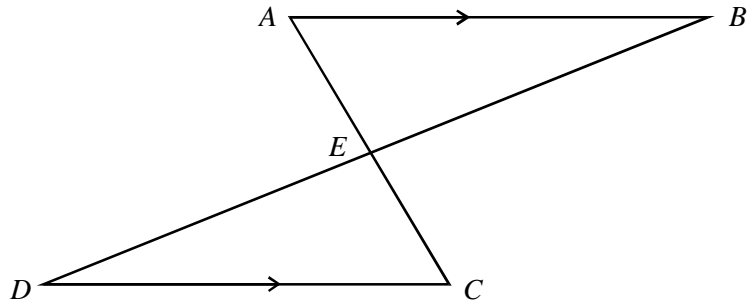
(b) Give a reason for your answer.

.....

(1)

(Total 2 marks)

8. In the diagram, the lines AC and BD intersect at E .
 AB and DC are parallel and $AB = DC$.

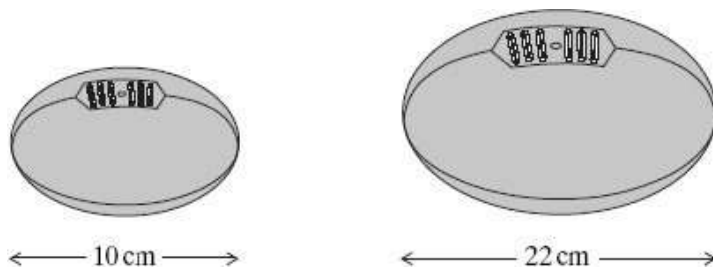


Prove that triangles ABE and CDE are congruent.

.....

(Total 4 marks)

9. A child's rugby ball is 10 cm long and has a volume of 200 cm^3 .
 It is similar in shape to a full-size rugby ball.
 A full-size rugby ball is 22 cm long.

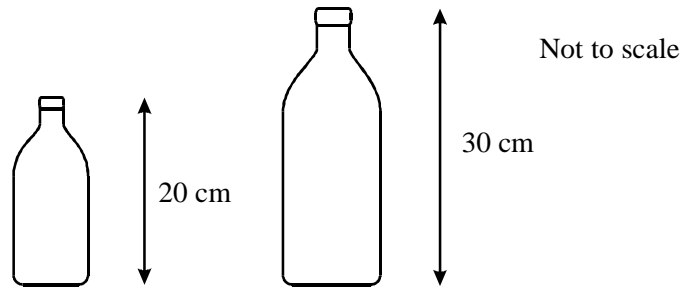


Find the volume of the full-size ball.

.....

Answer cm^3
 (Total 2 marks)

10. Two similar bottles are shown below.
 The smaller bottle is 20 cm tall and holds 480 ml of water.
 The larger bottle is 30 cm tall.



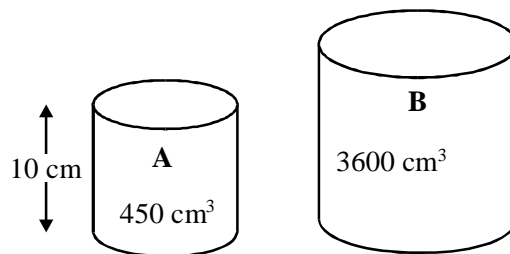
How much water does the larger bottle hold?

.....

Answer

(Total 3 marks)

11. *A* and *B* are two similar cylinders.



The height of cylinder *A* is 10 cm and its volume is 450 cm^3 .
 The volume of cylinder *B* is 3600 cm^3 .

Calculate the height of cylinder *B*.

.....

Answer cm

(Total 3 marks)