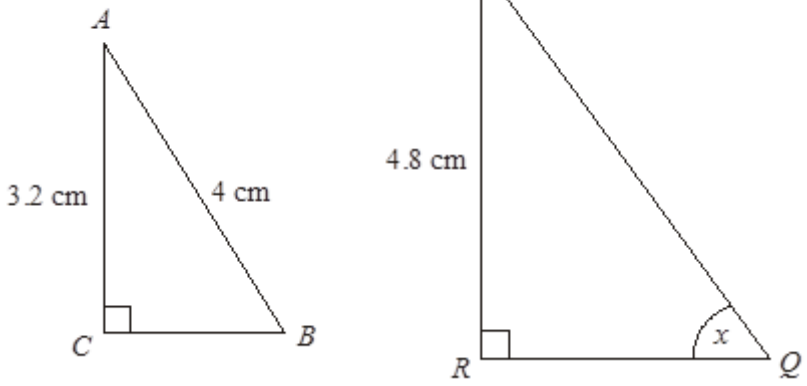
1. Triangles *ABC* and *PQR* are similar.
AC = 3.2 cm, *AB* = 4 cm and *PR* = 4.8 cm.

Calculate the length of *PQ*.

(3)

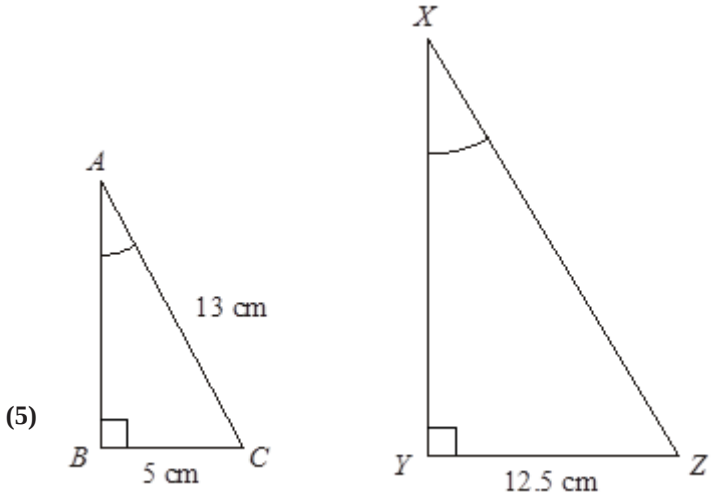


2. *ABC* and *XYZ* are similar triangles with right angles at *B* and *Y*.

AC = 13 cm, *BC* = 5 cm and *YZ* = 12.5 cm

Calculate the length of YZ.

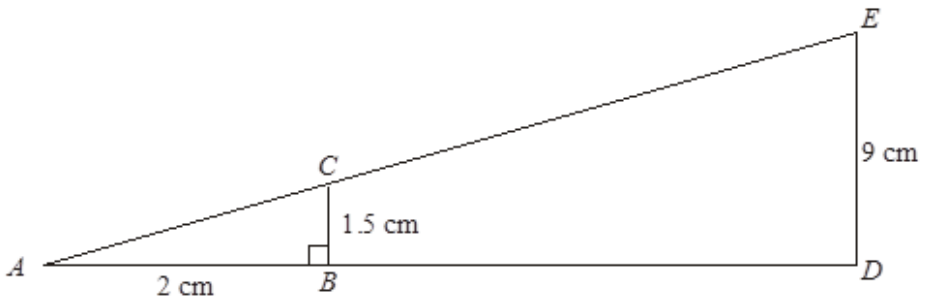
(5)



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

Calculate the length of *BD*.

(3)



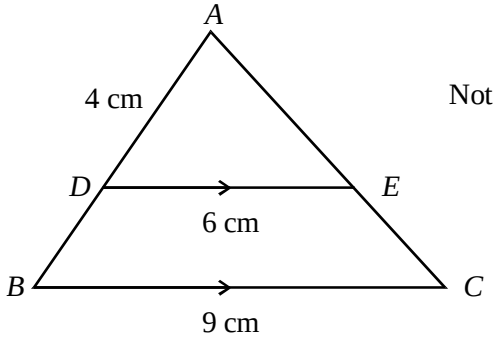
4. Triangles *ADE* and *ABC* are similar.

DE is parallel to *BC*.

AD = 4 cm, *DE* = 6 cm and *BC* = 9 cm.

Calculate the length of *BD*.

(3)

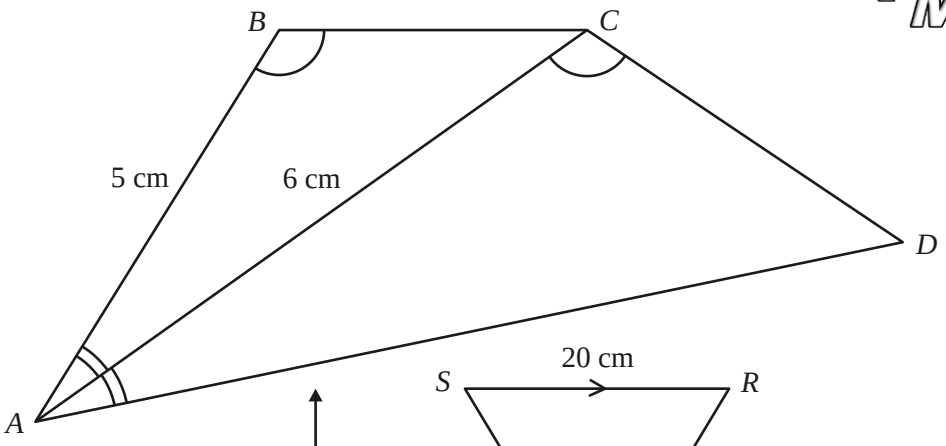


Not to scale

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

Calculate the length of *AD*.

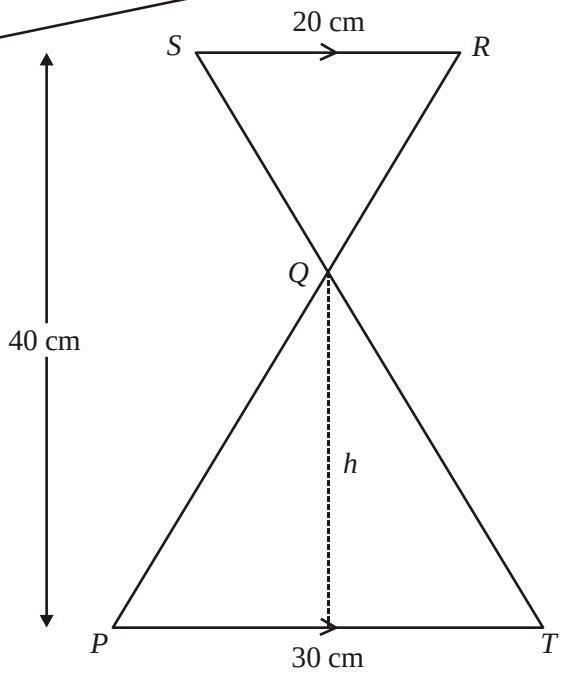
(3)



6. In the diagram *SR* is parallel to *PT*.
SQT and *RQP* are straight lines.
SR = 20 cm and *PT* = 30 cm
The total height of the two triangles is 40 cm.

Use similar triangles to calculate the height, *h* cm, of triangle *PQT*.

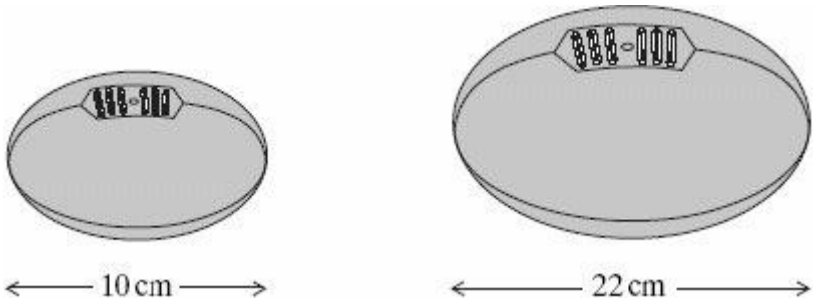
(3)



7. 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.

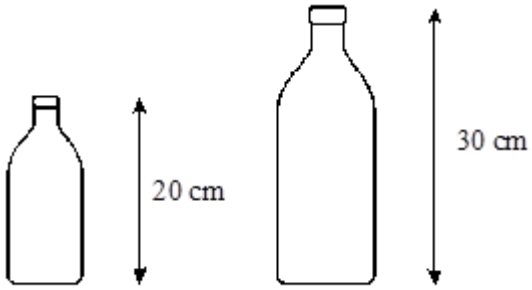
(3)



8. Two similar bottles are shown in the diagram.
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?

(3)

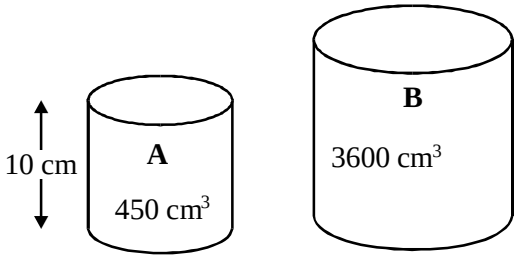


9. *A* and *B* are two similar cylinders.

The height of cylinder *A* is 10 cm and its volume is 450 cm^3.
The volume of cylinder *B* is 3600 cm^2.

Calculate the height of cylinder *B*.

(3)



ANSWERS

1. 6cm
2. 30cm
3. BD = 10cm
4. BD = 10cm
5. 7.2cm
6. 24cm
7. 2129.6 cm^3 (or ml)
8. 1620cm^3 (or ml)
9. 20cm