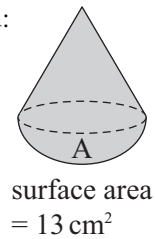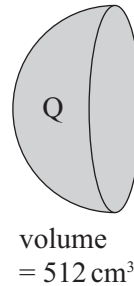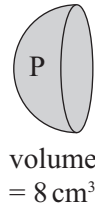1. These two shapes are similar. If the volume of A is 47 cm^3, find:
   a   the area ratio
   b   the length ratio
   c   the volume ratio
   d   the volume of B

   surface area
   = 13 cm^2

   B

   surface area
   = 468 cm^2
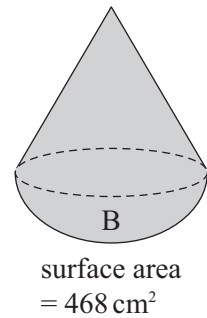
2. These two hemispheres are similar.
   If the surface area of Q is 912 cm^3, find
   a   the volume ratio
   b   the length ratio
   c   the area ratio
   d   the surface area of P

   P

   Q

   volume
   = 8 cm^3

   volume
   = 512 cm^3

3. Two hexagonal prisms are similar. One has a capacity of 5·4 l and the other has a capacity of 6·9 l. If the surface area of the smaller one is 19 m^2, what is the surface area (to 3 s.f.) of the larger one?

4. A bottle has a surface area of 480 cm^2 and a volume of 700 cm^3. What is the surface area (to 3 s.f.) of a bottle whose volume is 500 cm^3?

5. A towel has a volume of 6100 cm^3. The towel shrinks in a tumble drier. It remains a similar shape but its surface area is reduced by 12%. Find the new volume of the towel (to 3 s.f.)

6. Two crystals are similar. Their surface areas are in the ratio 5:9. If the volume of the smaller crystal is 8·7 mm^3, find the volume of the larger crystal (to 3 s.f.)

7. Two similar solid statues are made from the same material. The surface area of the larger statue is 2749 cm^2 and the smaller statue is 1364 cm^2. The cost of the material to make the larger statue is \$490. What is the cost of the material to make the smaller statue (to the nearest pence)?