Harder Similar Areas and Volumes
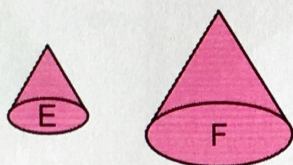
4 cm   x cm

A   B
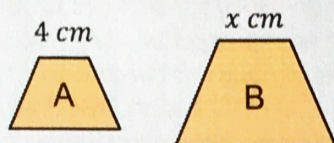
(a) The area of A is 20 cm^2 and the area
of B is 180 cm^2. Find x.

x cm   10 cm

C   D
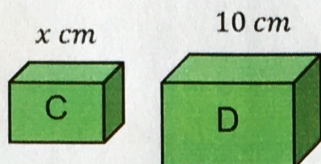
(b) The volume of C is 5 cm^3 and the
volume of D is 320 cm^2. Find x.

E   F

(c) The surface area of E is 15 cm^2 and the
surface area of F is 60 cm^2. If the volume
of E is 27 cm^3, find the volume of F.

G   H
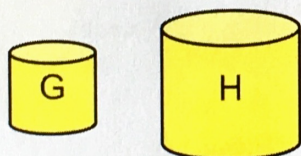
(d) The volume of G is 4 cm^3 and the
volume of H is 171.5 $cm3$. If the surface
area of H is 122.5 cm^2, find the surface
area of G.

(e) If a painting with area of 220 cm^2 has
a diagonal length of 21 cm, what will be
the diagonal length of a similar painting
with area 350 cm^2?

(f) It takes 5.6 litres of paint to paint a
tower that is 3 m high. What is the tallest
similar tower that can be painted with 8
litres of paint?

(g) A bronze statue has a mass of 300g
and a height of 9 cm. A similar statue has
a mass of 2 kg. What is its height?

(a) $x = 12$ cm

(b) $x = 2.5$ cm

(c) 216 cm^3

(d) $\dfrac{122.5}{3.5^2} = 10$ cm^2

(e) 26.5 cm (1dp)

(f) 3.38m (2dp)

(g) 16.9cm (1dp).