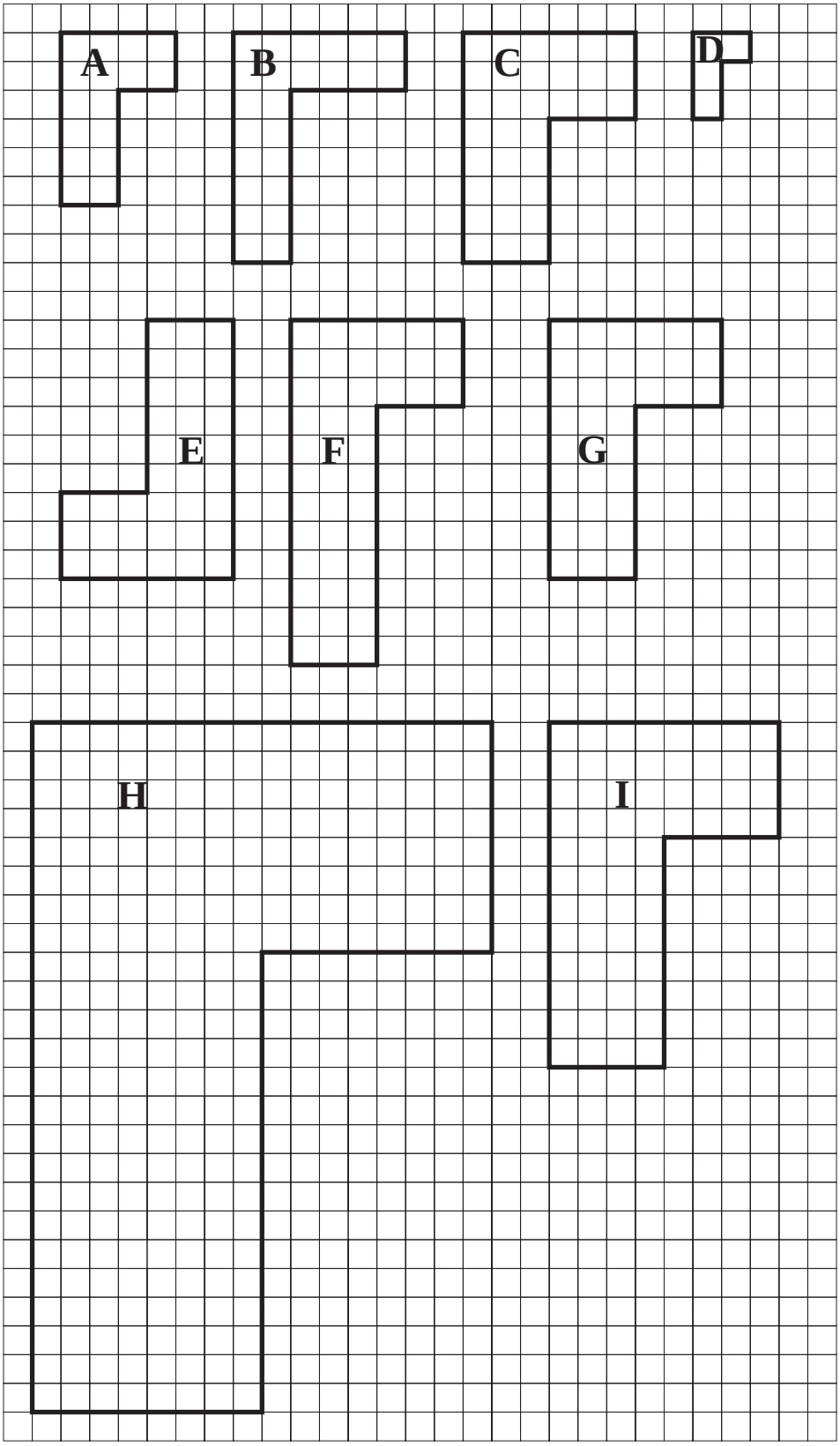
UNIT 19 *Similarity* Overhead Slides

Overhead Slides

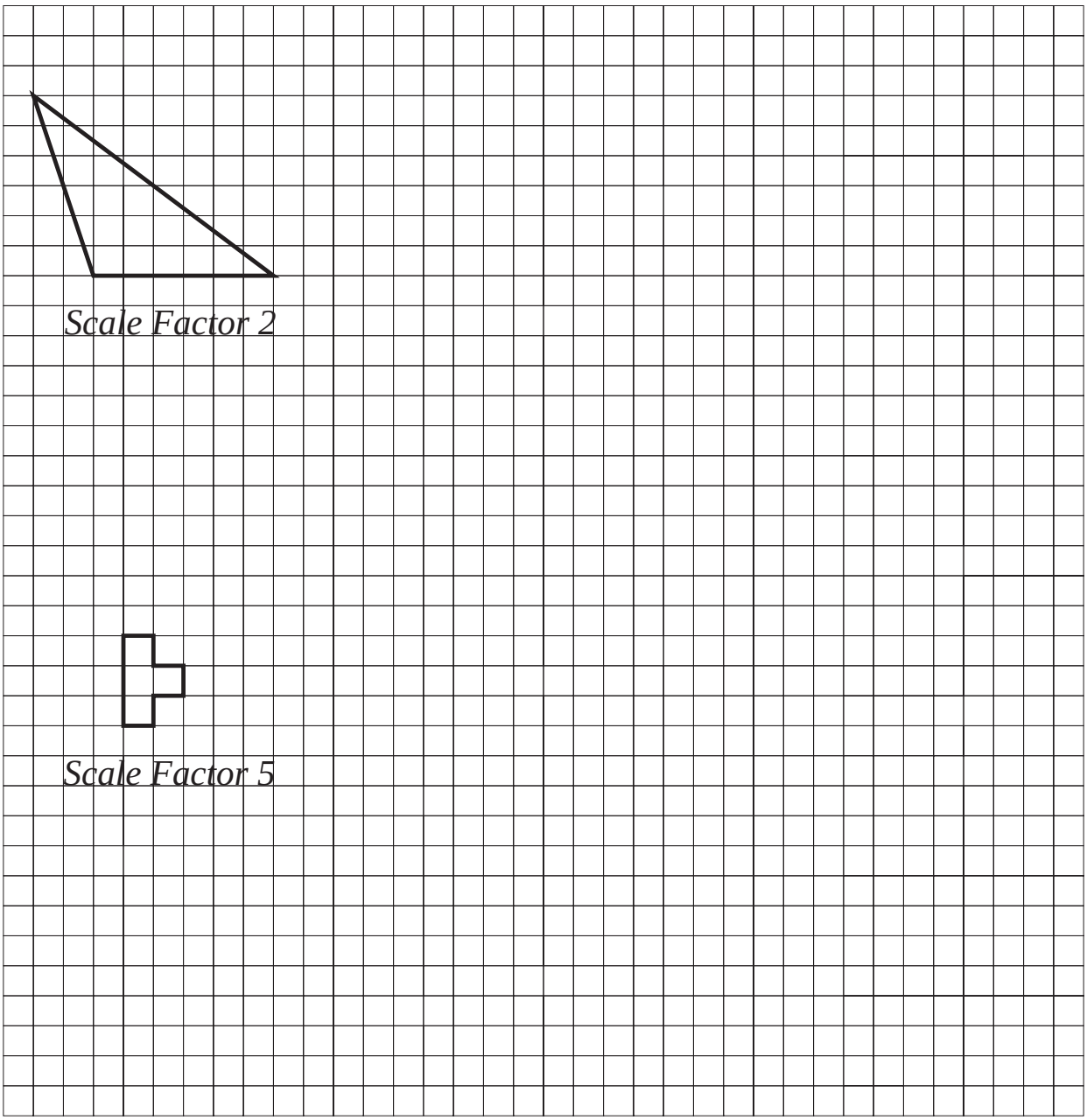
OS 19.1 *Enlargements*

Which of these shapes are enlargements of the shape A?



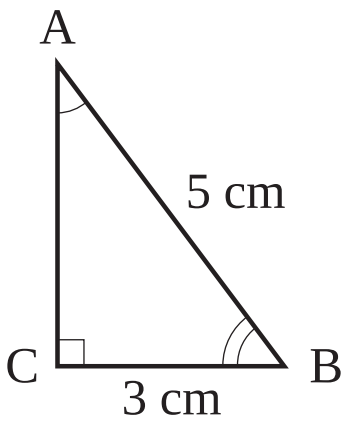
OS 19.2 *Scale Factors*

Enlarge each of the shapes shown with the scale factor stated.

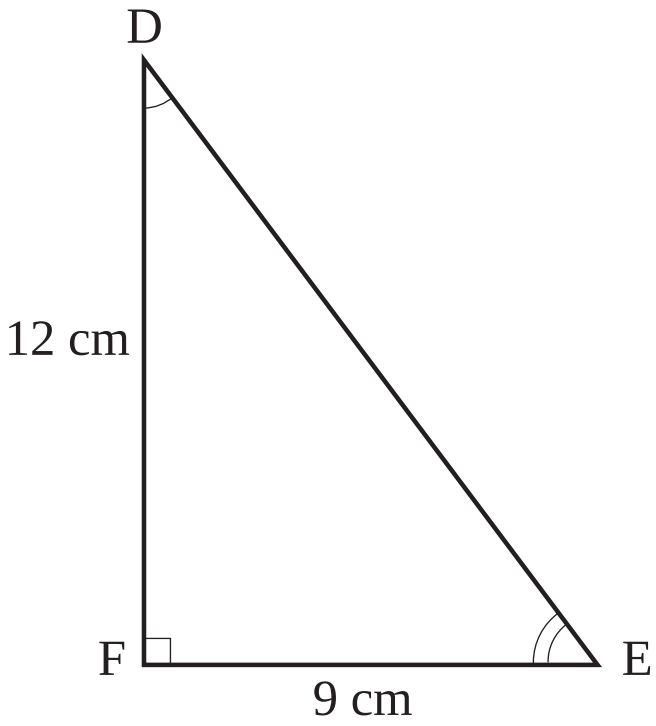


OS 19.3 *Similar Shapes*

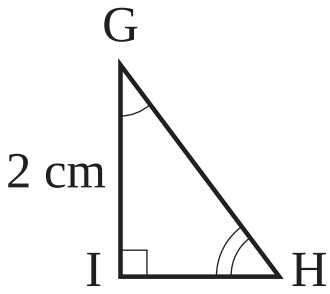
Calculate the unknown lengths in each of the following similar triangles:



A C = ☐ cm



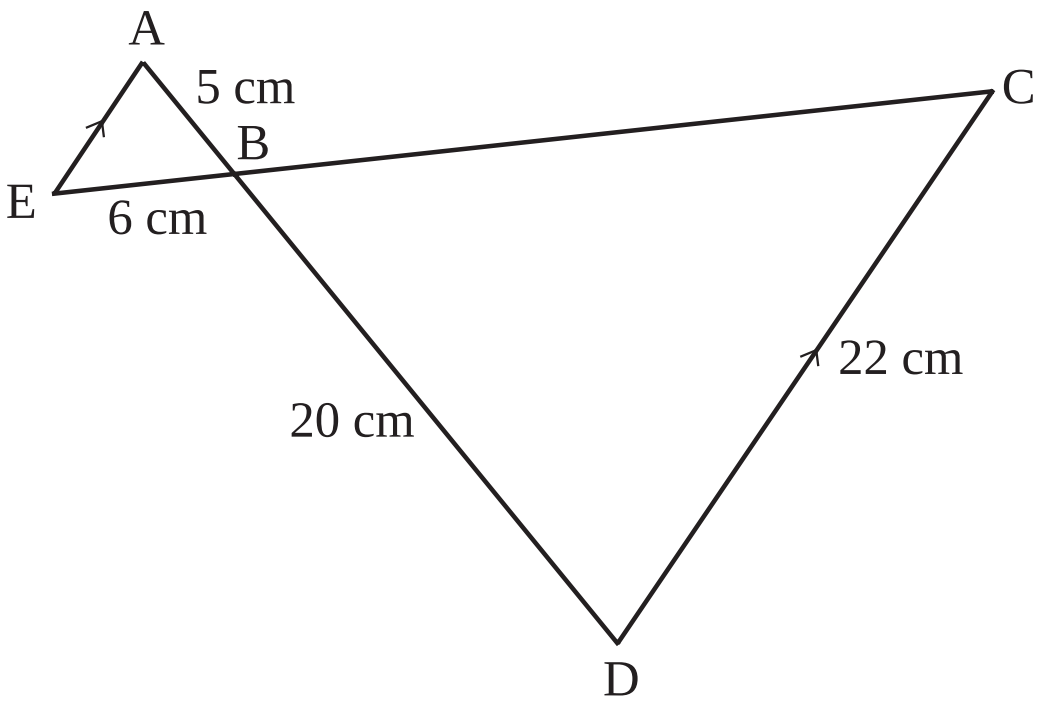
D E = ☐ cm



I H = ☐ cm

OS 9.4 *Using Similar Triangles*

The lines A E and C D are parallel. Determine the lengths of the unmarked sides.



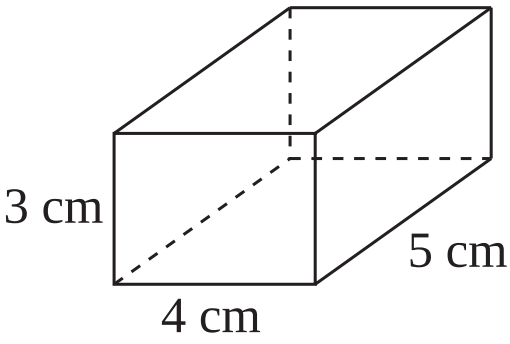
E A = ☐ cm

B C = ☐ cm

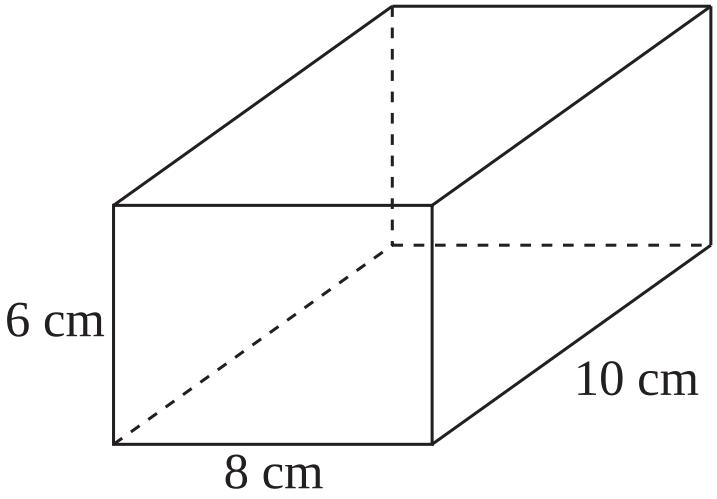
OS 19.5 *Line, Area and Volume Ratios*

The diagrams show two similar cuboids:

Cuboid A



Cuboid B



Volume of cuboid A =

Volume of cuboid B =

Surface area of cuboid A =

Surface area of cuboid B =

Lengths increase by a factor of $\square$.

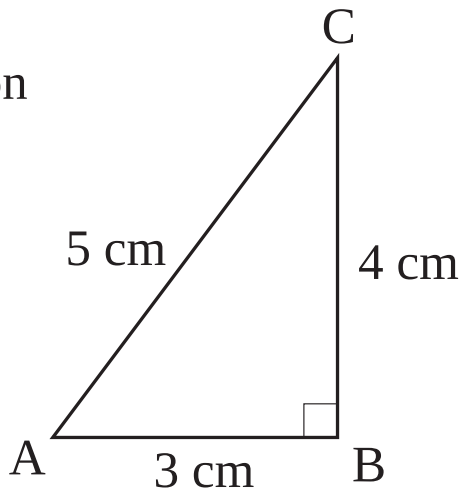
Areas increase by a factor of $\square = \square^{2}$.

Volumes increase by a factor of $\square = \square^{3}$.

OS 19.6 *Area Factors*

The following table gives information about enlargements of the triangle shown, which has an area of 6 cm^2.

Complete the table.

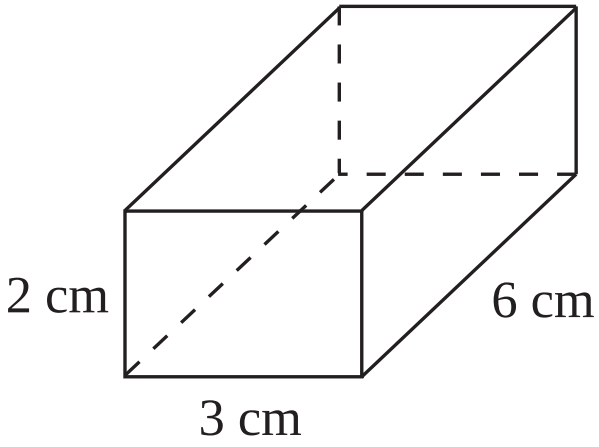


Length of Sides Base	Height	*Scale Factor*	*Area*	*Area Factor*
3 cm	4 cm	1	6 cm^2	1
		2		
	12 cm			
	16 cm			
15 cm				
		6		
30 cm	40 cm		600 cm^2	100
4.5 cm				

OS 19.7 *Volume Factors*

A cuboid has dimensions as shown in the diagram.

The cuboid is enlarged to give larger cuboids.



Complete the following table:

Dimensions			*Scale Factor*	*Volume*	*Volume Factor*
Width	*Length*	*Height*			
3 cm	6 cm	2 cm	1	36 cm^3	1
6 cm			2		
			4		
		10 cm			
30 cm					

OS 19.8 *Map Scales*

On a map with a scale of $1 : 50\,000$, a garden has an area of $2.5\ \text{cm}^2$. What is the *actual* area of the garden?

$$\text{Area} = 2.5 \times 50\,000^2$$

$$= \square\ \text{cm}^2$$

$$\text{Area} = \square \div \square\ \text{m}^2$$

$$= \square\ \text{m}^2$$

$$\text{Area} = \square \div \square\ \text{km}^2$$

$$= \square\ \text{km}^2$$