

Scale factor

- 1 a 3 b 3 c $\frac{3}{2}$ d $\frac{5}{4}$
- 2 a i 2 ii $x = 8$ b i $\frac{8}{7}$ ii $a = 32$
- c i 3 ii $x = 12$ d i 5 ii $y = 5$
- e i $\frac{7}{2}$ ii $p = 10$ f i $\frac{8}{3}$ ii $q = 56$
- g i $\frac{3}{2}$ ii $x = 12$ h i $\frac{2}{7}$ ii $m = 4$
- 3 a True b True c False d True
- e True
- 4 4
- 5 No solution provided.
- 6 a EF b $\angle EHG$
- 7 a 3 b 1 : 3
- 8 a 0.5 b 2 : 1

Enlargements and reductions

- 9 2
- 10 $FG = 22.5$ cm

11

a Yes, because corresponding sides are in the same ratio.

b 3

12 No, because corresponding sides are not in the same ratio.

13

a 71.3 cm

b 68.2 cm

c 58.9 cm

14

a 3

b 18

15

a $\frac{3}{2}$

b $x = 12$

16 Because a scale factor can be applied to any unit of length, whether it is mm, cm, etc.

17 2.5

18

a 30 cm

b 60°

19 4

20

a $\frac{2}{7}$

b 4 m

21

a $\frac{4}{5}$

b $\frac{5}{4}$

22

a $\frac{8}{13}$

b $\frac{13}{8}$

23 Smaller

Applications

24 564 cm

25 23 m

26 $h = 15$

27 $h = 3.1$

28 $h = 1.4$

29 $h = 11.1$

30 $h = 4.8$

31 $d = 17.1$

32 $AB = 384 \text{ m}$

33 $w = 77$