

Area scale factor

1

a 100

b $\frac{9}{100}$

c $\frac{1}{9}$

2

a 2

b $\frac{1}{2}$

c 6

d 24 units²

e 4 units²

3

a $x = 36 \text{ cm}^2$

b $x = 504 \text{ cm}^2$

4

a $\frac{3}{7}$

b $\frac{9}{49}$

5

a 2 cm

b 36 cm²

c 9

6 270 cm²

7 324 cm²

8 600 cm²

9 The area will increase by a factor of 9.

10

a 21, 30, 48

b 99 cm

11

a 128 cm²

b 9 cm

12

a The value of A will be doubled.

b A will increase by a factor of 4.

13

a A will increase by a factor of 9.

b A will decrease by a factor of 16.

Volume scale factor

14

a 2

b 8

15

a 4

b 64

c $54\,528\text{ cm}^3$

Surface area scale factor

16

a 5

b 25

c 177 cm^2

17

a $\frac{8}{7}$

b $\frac{512}{343}$

18

a 4

b 2

c 26 mm

19

a $\frac{11}{5}$

b $\frac{121}{25}$

20

a 1.4

b 1.96

c 2.744

Applications

21 4 cm

22 15 cm

23

a 6

b 36

c 1.4 m^2

24

a 60 cm^2

b 240 cm^2

c 2

d 4

25 3

26

a 2 : 1

b 8 : 1

c 8

27

a 5

b 25

c 9375 cm^2

28

a 9

b 27

29

a 2 : 1

b 4 : 1

c 8 : 1

d 16 : 1

30

a 4

b 16

c 24 L

31

a 1 : 400

b 1 : 8000

c 7.2 L

d 6 mL

32

a 1 : 20

b 1 : 400

c 1 : 8000