GCSE FOUNDATION · REVISION MAT 2

Comparing lengths, areas and volumes

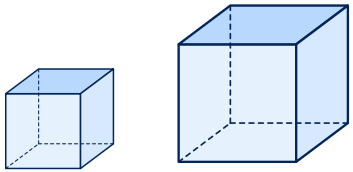
1 Square A has sides 2 cm.
Square B has sides 8 cm.

Write in its simplest form

(a) the ratio of their perimeters

(b) the ratio of their areas

2 Cube A has edges 1 cm.
Cube B has edges 3 cm.



Write the ratio of their volumes in its simplest form.

3 Cara says,

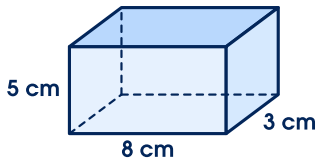
"If you multiply all the sides of a square by 3, its area is multiplied by 3."

Explain why Cara is wrong.

4 Rectangle A is 2 cm by 5 cm.
Rectangle B is 6 cm by 15 cm.

Show that the ratio of their areas is 1 : 9

5 A small box is 8 cm by 5 cm by 3 cm.



A large box has every length 2 times as long.

(a) Work out the volume of the large box.

(b) How many times bigger is its volume?

6 A rectangle is 10 cm by 6 cm.

A square has the same perimeter as the rectangle.

Write the ratio area of rectangle : area of square in its simplest form.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

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1 (a) 8 : 32 = **1 : 4**

(b) 4 : 64 = **1 : 16**

2 1 : 27 = **1 : 27**

3 Area = side × side, so both lengths are multiplied by 3.

Area is multiplied by 3 × 3 = **9**

4 10 : 90 = **1 : 9** ✓

5 (a) 16 × 10 × 6 = **960 cm^3**

(b) 2^3 = **8** times

6 Perimeter = 32 cm, so the square has sides 8 cm

Areas: 60 : 64

= **15 : 16**