Name: _____ 5-a-day Higher Plus

7th August

Corbettmaths

A and B are similar cuboids

volume of A: volume of B = 8 : 1000

Work out
surface area of B: surface area of A

B : A
25 : 1

How many even numbers greater than 40000 can be created using the digits

1 2 5 8 9

using each digit once?

ends in [2]
$3 \times 3 \times 2 \times 1 \times 1 = 18$
ends in [8]
$2 \times 3 \times 2 \times 1 \times 1 = 12$
30

Find the coordinates where the line $x + y = 3$ and the curve $x^2 + 3y = 27$ intersect

(-3, 6)
(6, -3)

$\frac{61}{330}$ $0.1\dot{7}\dot{8}$ 3^{-2} $\frac{19}{110}$

$\frac{59}{330}$ $\frac{1}{9}$

Arrange in order from smallest to largest

$\frac{183}{990}$ $\frac{177}{990}$ $\frac{110}{990}$ $\frac{171}{990}$

3^{-2}, $\frac{19}{110}$, $0.1\dot{7}\dot{8}$, $\frac{61}{330}$

A solid metal cube has a side length of 6cm to 2 significant figures.

$V = 5.95^3 = 210.644875\ cm^3$

The mass of the cube is 3.2×10^3 grams correct to 2 significant figures.

3250 g

Work out the upper bound for the density of the metal.

$d = \frac{3250}{210.644875}$

$= 15.4288...\ g/cm^3$

(max) $d = \frac{m\ (max)}{V\ (min)}$