

9th June

Higher 5-a-day



Corbettmaths

A 1kg bag of rice contains 50000 grains.

1000g

Work out the average mass of 1 grain of rice.

Give your answer in standard form.

$$\frac{1000}{50000} = 0.02$$

$$2 \times 10^{-2} \text{ g}$$

Write as a single power of 5.

$$\left(\frac{5^3 \times 5^{11}}{5^2}\right)^4 \quad \left(\frac{5^{14}}{5^2}\right)^4$$

$$(5^{12})^4$$

$$5^{48}$$

A bag contains 1200 beads.
They are red, yellow, pink and white.
The probability of picking a red is 0.06
The ratio of yellow to pink beads is 5:3
There are 744 white beads.

$$744 : 144$$

$$31 : 6$$

Find the ratio of white to pink beads

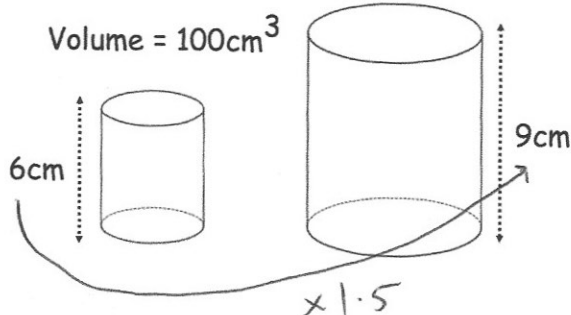
$$1200 \times 0.06 = 72 \text{ red}$$

$$1200 - 72 - 744 = 384$$

$$384 \div 8 = 48$$

$$48 \times 5 = 240 \text{ yellow}$$

$$48 \times 3 = 144 \text{ pink}$$



Find the volume of the larger cylinder.

$$100 \times 1.5^3$$

$$337.5 \text{ cm}^3$$

Expand and simplify

$$(x-5)(x-4)^2$$

$$(x-5)(x-4)(x-4)$$

$$(x-5)(x^2 - 8x + 16)$$

$$x^3 - 8x^2 + 16x - 5x^2 + 40x - 80$$

$$x^3 - 13x^2 + 56x - 80$$