

Preparation Test

Q1. There are ~~20~~⁷ crows and 3 cages. pink cage, blue cage and purple cage. How many different ways can you fill all the cages with a single crow in each cage. (Assume all crows are different).

Q2 Solve the following equations

$$\frac{2}{x-y} = 4$$

$$3x = 5y - 7$$

Q3 Simplify the following expressions

a)
$$\frac{1}{1 - \frac{2}{3-x}}$$

b)
$$3 - (3 - x) + 5x(2 - x)$$

c)
$$\frac{5}{x + \frac{1}{x}}$$

Q4 If a cone is cut into 9 equal volume slices, and the volume of each slice is $1000\pi \text{ cm}^3$ and the height of the cone is 10 cm, what is the diameter of the base of the cone?