Materials and Maths Challenge

KS2

Algebra

Bonnie has recycled 27 more cans than Jackie, and Jackie. If Bonnie has recycled 56 cans, write and solve an equation to find how many cans Jackie has recycled.

Multiplication

Every time you go to the supermarket you remember to take your reusable bag. If you save 15p every time you don't need to buy a bag, how much money would you save after 5 shopping trips?

(assume you only need 1 bag each trip)

Volumes

Raphael drives a standard-sized recycling truck. The dimensions of the base of the truck are length 4 metres, width 3 metres, and height 2 metres. What is the volume of the recycling truck?

Fractions

The class collected $\frac{4}{5}$ kilograms of glass bottles and $\frac{3}{8}$ kilograms of aluminium cans. How many kilograms of glass and aluminium did the class collect in all?

Percentages

Market prices for materials such as glass, plastic and metals are going up.

Currently it costs £400 to make a phone

If prices of each materials are increasing by 5%

How much will it cost to make a mobile phone after the increase in material prices?

Extension: Each material is priced as follows, glass costs £75, plastic costs £100 and £225 for metals. What would each of them cost after the percentage increase?

Answers

KS2

Algebra

x = 56 - 27 or x + 27 = 56

x = 29
Jackie = 29

Multiplication

15 x 5 =

75p

Volumes

4 x 3 x 2 =

24m³

Fractions

40 is the smallest common multiple.
4/5 + 3/8 = 32/40 + 15/40 = 47/40

$1\frac{7}{40}$ or 1.175 kg

Percentages

5% of 400 = 20

400+20 = £420

Extension:
glass - £78.75
plastic - £105
metals - £236.25