Problems of the Day 2020

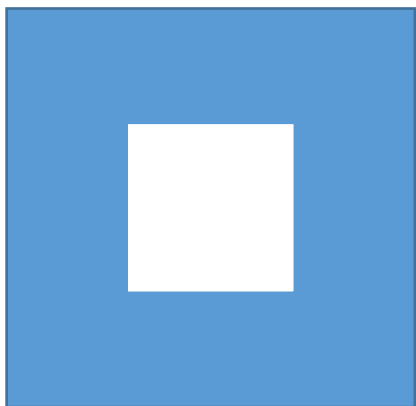**1** Yasmin has a large blue square piece of paper.

She cuts out a 4 cm x 4 cm square from the centre.

$4 \times 4 = 16$
$16 + 65 = 81$

$81 = 9 \times 9$

The area of the blue region is 65 cm². What is the length of the large blue square? **The length is 9 cm.**

2 Work out the value of each symbol.

52 + 33 + 15 = 100

52 + 15 = 67

33 − 15 = 18

$100 - 67 = 33$
$33 - 18 = 15$
$67 - 15 = 52$

White Rose Maths

Problems of the Day 2020

1 Jack and Dora each have some money.

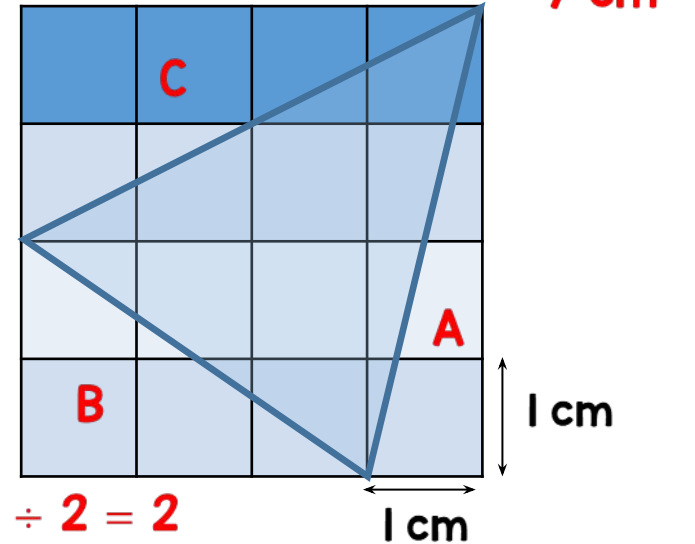> I spent $\frac{1}{3}$ of my money.

> I spent $\frac{1}{4}$ of my money.

They have the same amount left.

Dora spent £72

How much money did Jack spend?

Jack spent £48

2 What is the area of the triangle?

7 cm²

1 cm

1 cm

$A = 1 \times 4 \div 2 = 2$
$B = 2 \times 3 \div 2 = 3$
$C = 2 \times 4 \div 2 = 4$

$2 + 3 + 4 = 9$
$16 - 9 = 7$

3 Write down all the common multiplies of 4 and 6 that are less than 50

Show or explain your method.

12, 24, 36, 48

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Problems of the Day 2020

1 A can holds 330 ml of pop.

Pop is sold in packs of 6

Karl buys 12 packs of pop.

How many litres of pop does he have?

6 × 330 = 1,980
1,980 × 12 = 23,760
23,760 ÷ 1,000 = 23.76

Karl has 23.76 litres of pop.

2 £290 is shared between 10 boys and 12 girls.

Each girl receives £15

12 × 15 = 180
290 − 180 = 110

How much money does each boy receive, if they each get the same amount of money?

110 ÷ 10 = 11   Each boy gets £11

3 Here is a sequence

2, 5, 9, 12, 2, 5, 9, 12, 2, 5, 9, 12, ...

What is the sum of the first 200 numbers in this sequence?

Explain your method.

2 + 5 + 9 + 12 = 28
28 × 50 = 1,400

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1 The diameter of a 10p coin is 24.5 mm.

The diameter of a 5p coin is 18 mm.

Some coins are laid out end to end.

What is the distance marked *b* in the diagram?

$24.5 \times 4 = 98$

$18 \times 5 = 90$

$98 - 90 = 8$

$b = 8$ mm

2 Mrs Green bakes muffins.

She sells them in her shop.

$200 \div 10 = 20$

$20 \times 7 = 140$

$200 - 140 = 60$

- On Monday she bakes 200 and sells 70% of the them.
- On Tuesday she bakes twice as many muffins but has the same amount left. $400 - 60 = 340$

$\dfrac{340}{400} = \dfrac{17}{20}$ $17 \times 5 = 85$

What percentage of the muffins did she sell on Tuesday?

She sold 85% of the muffins.

White Rose Maths

Problems of the Day 2020

1 Complete these number sentences.

$$25 + 25 + 25 + 25 = \boxed{4} \times 25$$

$$10 + 10 + 10 + 10 = \boxed{8} \times 5$$

$$25 + 25 + 25 + 25 = \boxed{20} \times 5$$

$$25 + 25 + 25 + 25 = \boxed{1} \times 100$$

$$25 + 25 - 25 - 25 = \boxed{0} \times 25$$

2 Louise is thinking of a 4-digit number.

Here are some clues to the number.

> The number lies between 4,000 and 5,000

> All the digits are different

> The digit in the tens place is twice the digit in the thousands place

> The sum of the digits is 24

> The number is odd

What could Louise's number be?   4,983 , 4,389
4,587 , 4,785

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