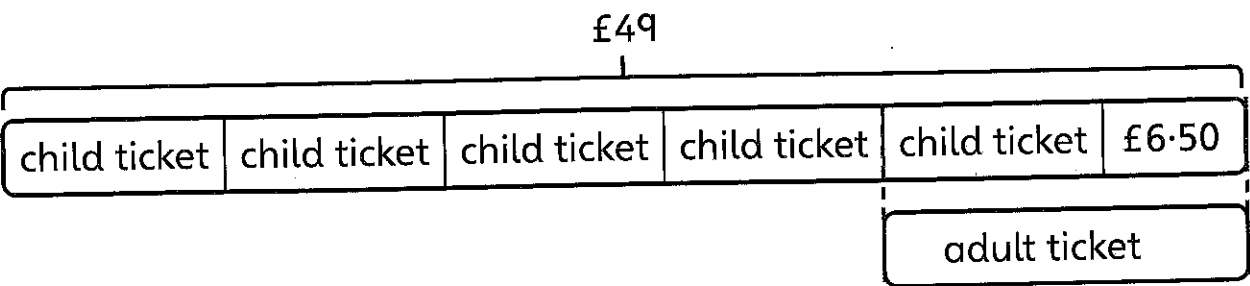


Problem solving – four operations 1

1 Entry to a castle costs £6.50 more for adults than for children.
The cost for a family with one adult and four children is £49.
What is the cost of each ticket?



2 A supermarket needs to deliver 270 online shopping orders.
A van can carry 25 orders at a time.
How many van trips are needed to deliver all the orders?

3 A supermarket sells mixed bags of 6 lemons and 4 limes.
There are 255 lemons and 171 limes to be put into bags.

a) How many mixed bags of lemons and limes can be made?

b) How many more lemons and limes are needed to complete another bag?

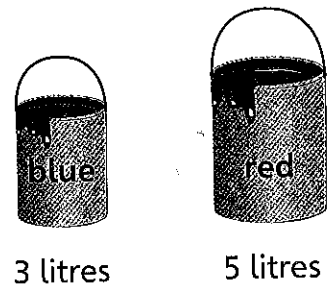

4 Cups hold 0.25 l of water. Mugs hold 375 ml of water.
Jen fills 5 cups and 5 mugs with water.
How much more water does she use altogether for the mugs than for the cups?

5 A number is multiplied by 6 and then divided by 3.
20 is added to the result.



Reena says, 'That is the same as doubling the number and adding 20.'
Explain why Reena is correct. Use examples to help you.

6 There are 40 tins of blue paint. There are also tins of red paint.
The total number of litres of red paint is half the total number of litres of blue paint. How many tins of red paint are there?




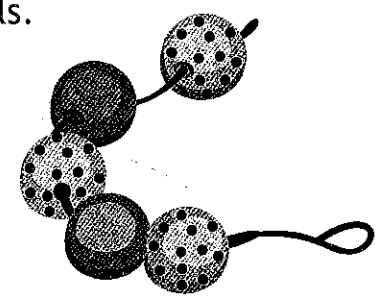
Reflect

Write down three things you should do when solving problems.

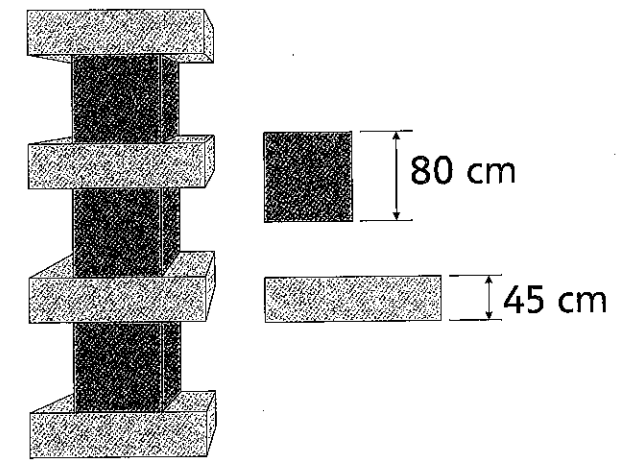

- _____
- _____
- _____

Problem solving – four operations 2

1 Jamie makes bracelets using laces and different beads.
Each lace costs 25p.
This bracelet costs £1.30 to make.
The plain beads cost 18p each.
What is the cost of one spotty bead?

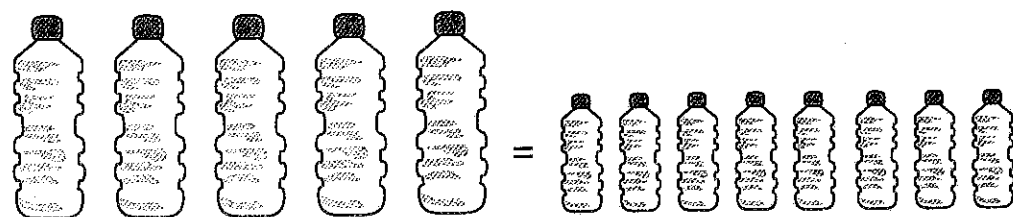


2 A tower is made with two different-sized blocks.
Calculate the height of the tower.



- 3 Richard compares the capacity of large and small bottles.

The capacity of a large bottle is 720 ml.



- a) What is the capacity of a small bottle?

Blank space for writing the answer to question 3a.

- b) How many more litres of water fill 10 large bottles than 10 small bottles?

Blank space for writing the answer to question 3b.

- 4 Alex uses these four digits to make a calculation: 3 4 8 9



Her answer is an odd multiple of 5.

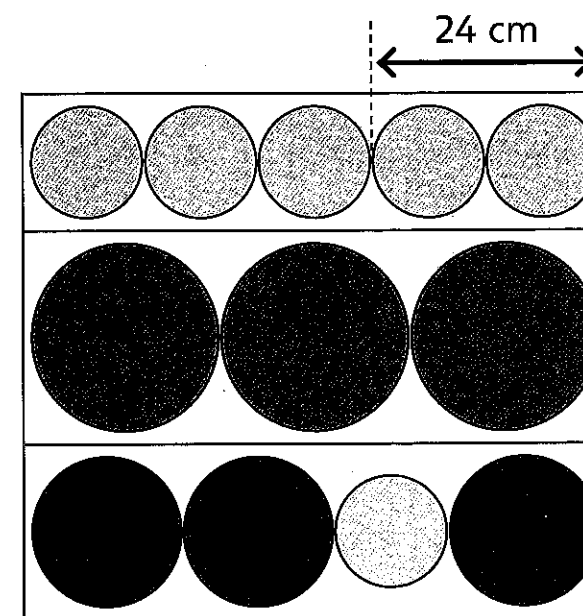
What calculation did she make?

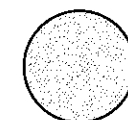
Find more than one solution.


$$\begin{array}{l} \square\square \times \square + \square = \square \\ \square\square \times \square + \square = \square \\ \square\square \times \square + \square = \square \end{array}$$

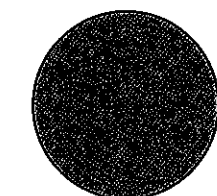
- 5 Find the diameters of the different-sized circles.

CHALLENGE



 = cm

 = cm

 = cm

Reflect

Compare the strategy you used to solve question 3 b) with a partner's strategy.

Try your strategies to find out how many more litres of water fill 25 large bottles than 25 small bottles.

Blank space for writing the answer to the reflection question.

Problem solving – fractions

- 1 Use all the digit cards to make fractions that complete the statement.

$$\frac{\boxed{}}{\boxed{}} < \frac{1}{2} < \frac{\boxed{}}{\boxed{}}$$

6


4

3


2

- 2 Zac and Jamilla made 108 cookies to sell for charity.
Zac sold $\frac{4}{9}$ of the cookies. Jamilla sold $\frac{1}{3}$ of the cookies.

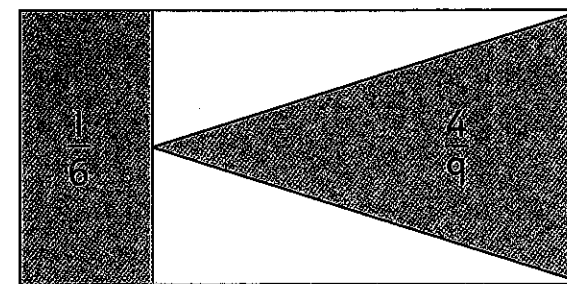
a) How many cookies did they sell altogether?



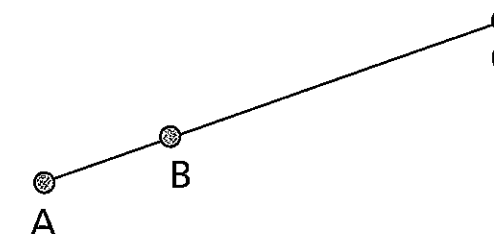
b) What fraction of the cookies were left?




- 3 What fraction of the rectangle is **not** shaded?




- 4 The distance between A and B is $1\frac{1}{4}$ km.
The distance between A and C is $4\frac{3}{5}$ km.
What is the distance from B to C?





- 5 In a bag of marbles, 38 are green and 22 are red.
The remaining $\frac{3}{8}$ of the marbles are yellow.
How many marbles are in the bag altogether?



- 6 Use both the digits 3 and 4 to make the largest possible answer to each calculation.

CHALLENGE

$$\frac{\boxed{}}{8} \times \frac{2}{\boxed{}} = \boxed{}$$

$$\frac{\boxed{}}{5} + \frac{\boxed{}}{4} = \boxed{}$$

$$\frac{\boxed{}}{10} + \boxed{} = \boxed{}$$

I think I need to work out the answer each time.

I think I can use my reasoning skills to make decisions.



Reflect

$$\frac{3}{8} \quad \frac{6}{14} \quad \frac{7}{12} \quad \frac{4}{9}$$

Which of these fractions are larger than $\frac{1}{2}$? Use reasoning to explain your answer.

Problem solving – decimals

- 1 The mass of a bag of sweets is 0.3 kg.

The mass of 5 bags of popcorn is equal to the mass of 3 bags of sweets.

What is the mass of 1 bag of popcorn?



- 2 a) 4 bags of popcorn cost £7.20.

2 bags of popcorn and a carton of juice cost £4.25.

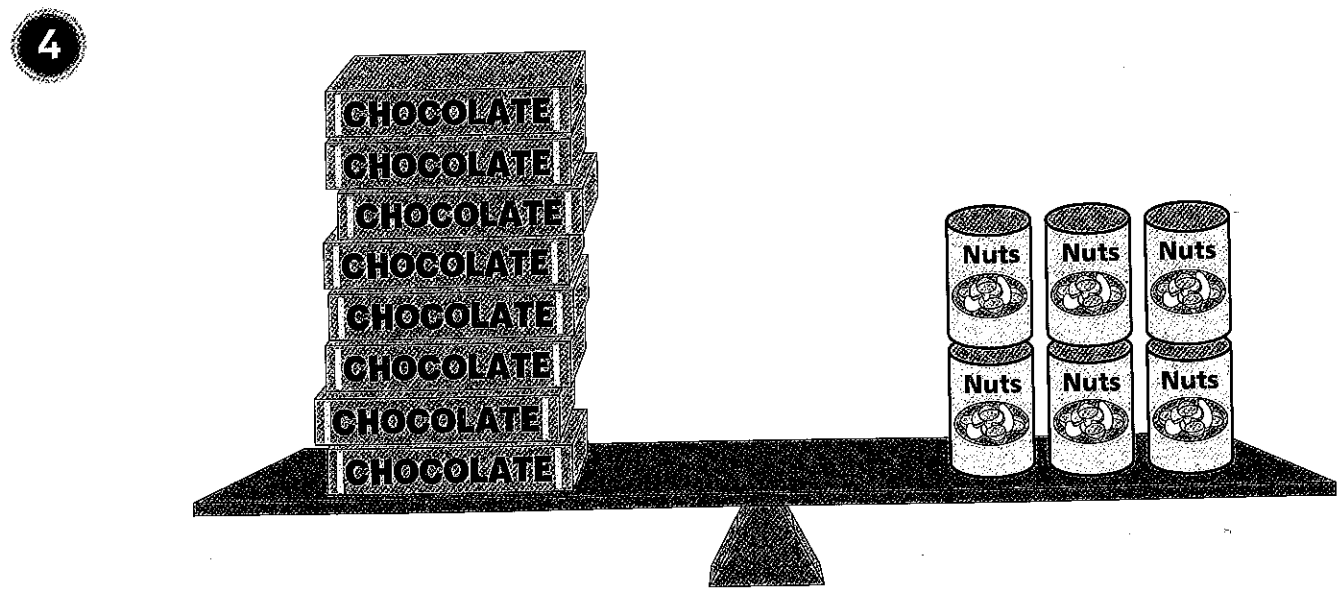
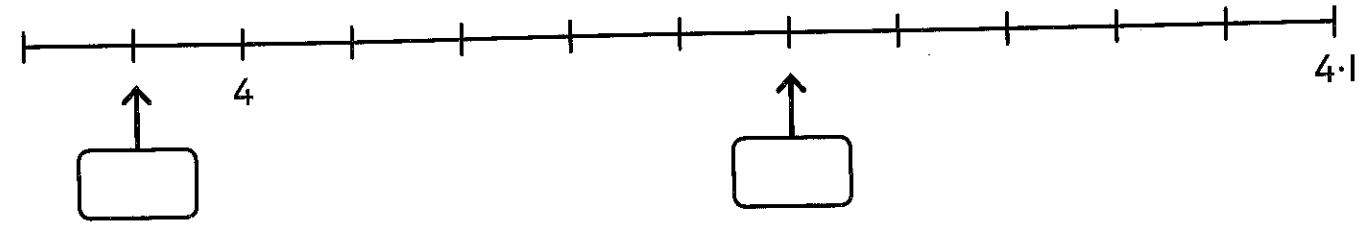
How much does the carton of juice cost?



- b) How much more does it cost to buy 8 bags of popcorn than 8 cartons of juice?



3 Write the missing numbers on the number line.



The mass of 1 bar of chocolate is 0.2 kg.
What is the mass of 1 tin of nuts?

A large empty box with a pencil icon in the top left corner, intended for the student's answer to question 4.

5 Arrange the numbers in the grid so that each row, column and diagonal has the same total.

7.1 4.8 5.3
4.6 5.7 6.4 5.5
6.2 3.9

A large empty box with a pencil icon in the top left corner, intended for the student's answer to question 5.



I am going to reason about different totals. Not all the large numbers can go in a single row or column.



Reflect

Which of these numbers is closest to 0.9? Explain your answer.

1.2 0.87 0.08 0.95 1.01

A series of four horizontal lines with a dot at the start of each line, intended for the student's answer to the 'Reflect' question.