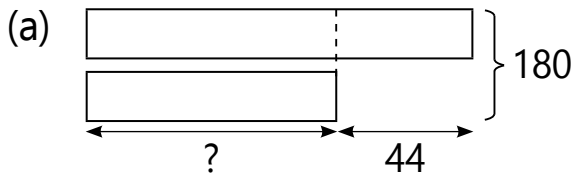


Name _____ Date _____

Example 4A

Study each model diagram. What is the missing number?

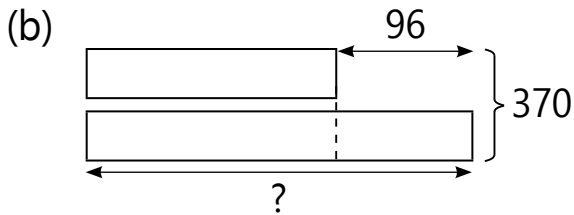


To find the smaller quantity, we start by subtracting 44 from 180, resulting in a value that is twice the smaller quantity.

$$180 - 44 = 136$$

$$2 \text{ units} = 136$$

$$1 \text{ unit} = 136 \div 2 = 68$$

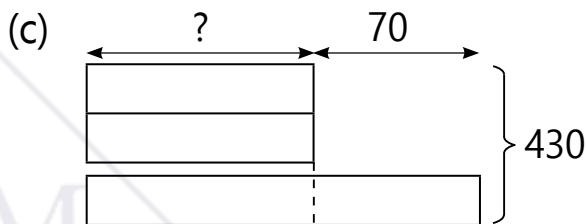


To find the larger quantity, we start by adding 96 to 370, resulting in a value that is twice the larger quantity.

$$370 + 96 = 466$$

$$2 \text{ units} = 466$$

$$1 \text{ unit} = 466 \div 2 = 233$$



To find the smaller quantity, we start by subtracting 70 from 430, resulting in a value that is 3 times the smaller quantity.

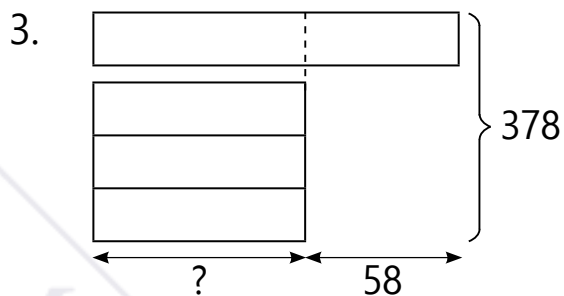
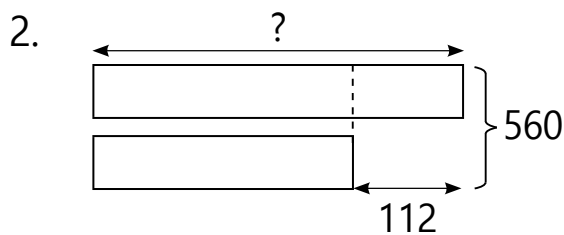
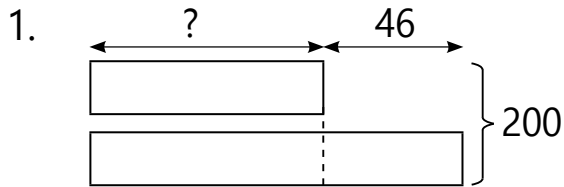
$$430 - 70 = 360$$

$$3 \text{ units} = 360$$

$$1 \text{ unit} = 360 \div 3 = 120$$

Practice 4A

Study each model diagram. What is the missing number?



Name _____ Date _____

Example 7A

Solve the following problem. Show your working clearly.

What is the total sum when you add these 10 whole numbers together?

$$1 + 2 + 3 + \dots + 8 + 9 + 10$$

Solution

We simplify the problem by splitting the numbers into two equal groups.

$$\begin{array}{l} \text{Split: } 1 + 2 + 3 + 4 + 5 \\ \quad \quad 10 + 9 + 8 + 7 + 6 \end{array}$$

$$\begin{array}{l} \text{Add vertically: } 1 + 10 = 11 \\ \quad \quad \quad 2 + 9 = 11 \\ \quad \quad \quad 3 + 8 = 11 \\ \quad \quad \quad 4 + 7 = 11 \\ \quad \quad \quad 5 + 6 = 11 \end{array}$$

5 pairs of 11 = $5 \times 11 = 55$.
The total sum is 55.

Split the numbers into two equal groups: 1 to 5 and 6 to 10.

Next, vertically add the numbers within each pair, resulting in a sum of 11 for each pair.

Lastly, find the total sum by multiplying the number of pairs (5) by the sum (11).

Practice 7C

Solve the following problem. Show your working clearly.

3. (a) What is the total when you add up the odd numbers from 1 to 20?

$$1 + 3 + 5 + \dots + 15 + 17 + 19$$

The total is _____.

- (b) What is the total when you add up the even numbers from 1 to 40?

$$2 + 4 + 6 + \dots + 36 + 38 + 40$$

The total is _____.



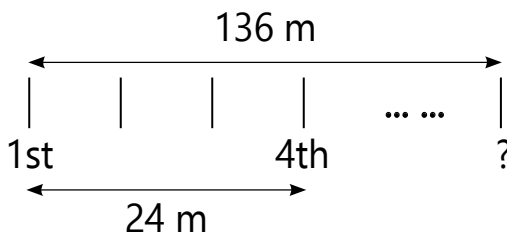
Example 8B

Solve the following problem. Show your working clearly.

In a garden, a path is 136 m long.
Fruit trees are planted at an equal distance apart along the path, including at both ends.
The distance between the 1st and the 4th fruit trees is 24 m.
How many fruit trees are there altogether?

Solution

We draw a diagram to visualise how the total number of trees relates to the total number of gaps between them.



The total number of trees is one more than the total number of gaps.

$$3 \text{ gaps} = 24 \text{ m}$$

$$1 \text{ gap} = 24 \text{ m} \div 3 = 8 \text{ m}$$

Total number of gaps

$$= 136 \text{ m} \div 8 \text{ m} = 17$$

Total number of trees

$$= 17 + 1 = 18$$

There are 18 fruit trees altogether.

6. Dennis puts 7 marks at an equal distance apart along a pipe, excluding both ends.
The distance between the 2nd and the 5th marks is 225 cm.
What is the length of the pipe?

The length of the pipe is _____.

