

## Step In

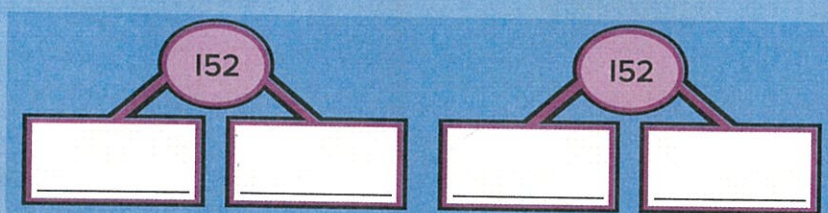
### Using the Formal Division Algorithm (Regrouping Before Dividing)

Mrs Singull shares the total amount of money in this picture equally among her four children.

How much money will each child receive? How do you know? What will she have to do to share the money?



Show two different ways to break 152 into parts that are easier to divide by 4.



Kaylee followed these steps to work out the answer.

**Step 1**

$$\begin{array}{r|l} 4 & 152 \\ \hline \end{array}$$

**Step 2**

$$\begin{array}{r|l} 4 & 152 \\ - & 12 \\ \hline & 3 \end{array}$$

**Step 3**

$$\begin{array}{r|l} 4 & 152 \\ - & 12 \\ \hline & 32 \\ & 32 \\ \hline & 0 \end{array}$$

Describe each step. How did Kaylee regroup the dividend to work out each share?

## Step Up

1. Follow the above steps to solve each problem.

a.

$$\begin{array}{r|l} 5 & 375 \\ - & 35 \\ \hline & 2 \end{array}$$

b.

$$\begin{array}{r|l} 3 & 291 \\ \hline \end{array}$$

c.

$$\begin{array}{r|l} 4 & 356 \\ \hline \end{array}$$



2. Complete each of these.

a.

$$\begin{array}{r} 6 \overline{) 426} \end{array}$$

b.

$$\begin{array}{r} 8 \overline{) 352} \end{array}$$

c.

$$\begin{array}{r} 7 \overline{) 595} \end{array}$$

d.

$$\begin{array}{r} 4 \overline{) 4972} \end{array}$$

e.

$$\begin{array}{r} 8 \overline{) 5392} \end{array}$$

f.

$$\begin{array}{r} 5 \overline{) 2975} \end{array}$$

## Step Ahead

Write the missing numbers.

a.

$$\begin{array}{r} \phantom{0}9 \phantom{0} \boxed{\phantom{00}} \\ 5 \overline{) 485} \\ - \phantom{0} \boxed{\phantom{00}} 5 \phantom{0} \\ \hline \phantom{0}3 \phantom{0}5 \\ - \phantom{0}3 \phantom{0}5 \\ \hline \phantom{0}0 \end{array}$$

b.

$$\begin{array}{r} \phantom{0} \boxed{\phantom{00}} 8 \\ 7 \overline{) 266} \\ - \phantom{0}2 \phantom{0} \boxed{\phantom{00}} 6 \\ \hline \phantom{0}5 \phantom{0}6 \\ - \phantom{0}5 \phantom{0}6 \\ \hline \phantom{0}0 \end{array}$$

c.

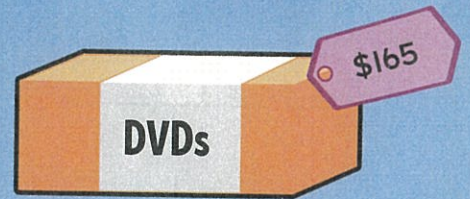
$$\begin{array}{r} \phantom{0}7 \phantom{0}9 \\ \boxed{\phantom{00}} \overline{) 316} \\ - \phantom{0}2 \phantom{0}8 \phantom{0} \\ \hline \phantom{0}3 \phantom{0}6 \\ - \phantom{0}3 \phantom{0}6 \\ \hline \phantom{0}0 \end{array}$$



## Step In Solving Division Problems Involving Remainders

A boxed set of DVDs costs \$165. There are 6 DVDs in the set.

What is the cost of each DVD?



I broke the total cost into parts that are easier to divide by 6. That's \$120 + \$42 + \$3.

Loyla uses the formal division algorithm to work out the answer.

Write the missing digits.

What does the remainder represent in this situation?

How would you deal with the remainder?

What is the cost of each DVD?

$$\begin{array}{r}
 2 \quad \boxed{\phantom{00}} \\
 6 \overline{) 165} \\
 \underline{- 12} \phantom{0} \\
 4 \phantom{0} \boxed{\phantom{00}} \\
 \underline{- \phantom{0} 2} \phantom{0} \\
 \phantom{0} \boxed{\phantom{00}} \phantom{0} \\
 \phantom{0} \phantom{0} \boxed{\phantom{00}}
 \end{array}$$

## Step Up

- I. Work out the cost of one DVD. Then loop the boxed set that is the best value for money.



\$ \_\_\_\_\_



\$ \_\_\_\_\_



2. Solve each word problem. Express each answer in the most appropriate way.

- a. Leo pays \$129 to park at the airport for five days. What does it cost to park at the airport for one day?

\$ \_\_\_\_\_

- b. Four friends compete in a 134-km team fun run. They each run the same distance. What distance does each person run?

\_\_\_\_\_ km

- c. Eight DVDs are packed into each boxed set. There are 1210 DVDs to pack. How many DVDs are left over?

\_\_\_\_\_ DVDs

- d. Kate buys a new TV for \$1497. She pays equal monthly payments over six months. What amount does she pay each month?

\$ \_\_\_\_\_

### Step Ahead

Find a possible solution to this problem.

A social soccer match raises \$4250. The proceeds are shared among three charities. How much should each charity receive?





## Step In Solving Division Problems

Five friends equally share the total cost of this meal.

What amount should each person pay?



I know that it's more than \$60, because  $5 \times \$60$  is \$300.

### Ocean Spray Café

5 × Entrée	\$125
5 × Main	\$180
5 × Drinks	\$40
<b>Total</b>	<b>\$345</b>

How could you break \$345 into parts that are easier to divide by 5?

Hina worked out the amount that each person pays like this.

Describe the steps that she followed.

Ahmed worked out the amount in a different way.

He divided the cost of the entrées, then the mains and then the drinks by 5. He then added the partial quotients.

Is his answer the same as Hina's answer? Explain your thinking.

	6	9
5	4	5
-	0	↓
	4	5
	4	5
		0

## Step Up

1. Work out the amount that each person pays. Show your thinking.

a. The total cost is shared by 4 people.

### Mountain View

4 × Entrée	\$60
4 × Main	\$92
4 × Drinks	\$44
<b>Total</b>	<b>\$196</b>

\$ \_\_\_\_\_ each

b. The total cost is shared by 6 people.

### 10<sup>TH</sup> STREET DINING

6 × Entrée	\$96
6 × Main	\$180
8 × Drinks	\$42
<b>Total</b>	<b>\$318</b>

\$ \_\_\_\_\_ each



## Step Ahead

Solve these word problems. Use scrap paper to record your thinking.

- a. Three friends share the cost of a gift for \$198. Dylan uses a \$50 gift voucher to help pay for his share. How much more money does he need to pay?

\$ \_\_\_\_\_

- b. 1420 people participated in a survey. One-quarter of the participants were male. How many females participated in the survey?

\_\_\_\_\_ females

a.

$$847 \div 7 =$$

b.

$$936 \div 8 =$$

c.

$$216 \div 6 =$$

d.

$$1324 \div 4 =$$

e.

$$5292 \div 3 =$$

f.

$$7343 \div 7 =$$

2. Use a method of your choice to solve each problem. Show your thinking.



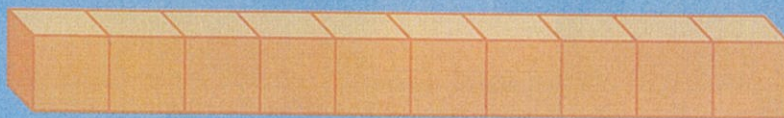
## Step In

# Exploring the Relationship Between Metres and Millimetres

This block measures 10 cm.

How many millimetres are in 10 cm?

How do you know?



How many centimetres are in one metre? How could you check?



You could check by placing 10 tens blocks along one side of a metre ruler.

In the word **millimetre**, **milli** means one-thousandth. A related word is millipede, a creature with so many legs it was guessed that it had about 1000.

How many millimetres are in one metre?

How did you work it out?

How would you change these?

3500 mm to metres

12 metres to millimetres

## Step Up

I. Complete each of these.

a. 6 metres

is the same length as

\_\_\_\_\_ mm

b. 9 metres

is the same length as

\_\_\_\_\_ mm

c. 4 metres

is the same length as

\_\_\_\_\_ mm

d. 11 metres

is the same length as

\_\_\_\_\_ mm

e. 15 metres

is the same length as

\_\_\_\_\_ mm

f.  $7\frac{1}{2}$  metres

is the same length as

\_\_\_\_\_ mm

g.  $8\frac{1}{2}$  metres

is the same length as

\_\_\_\_\_ mm

h.  $23\frac{1}{2}$  metres

is the same length as

\_\_\_\_\_ mm

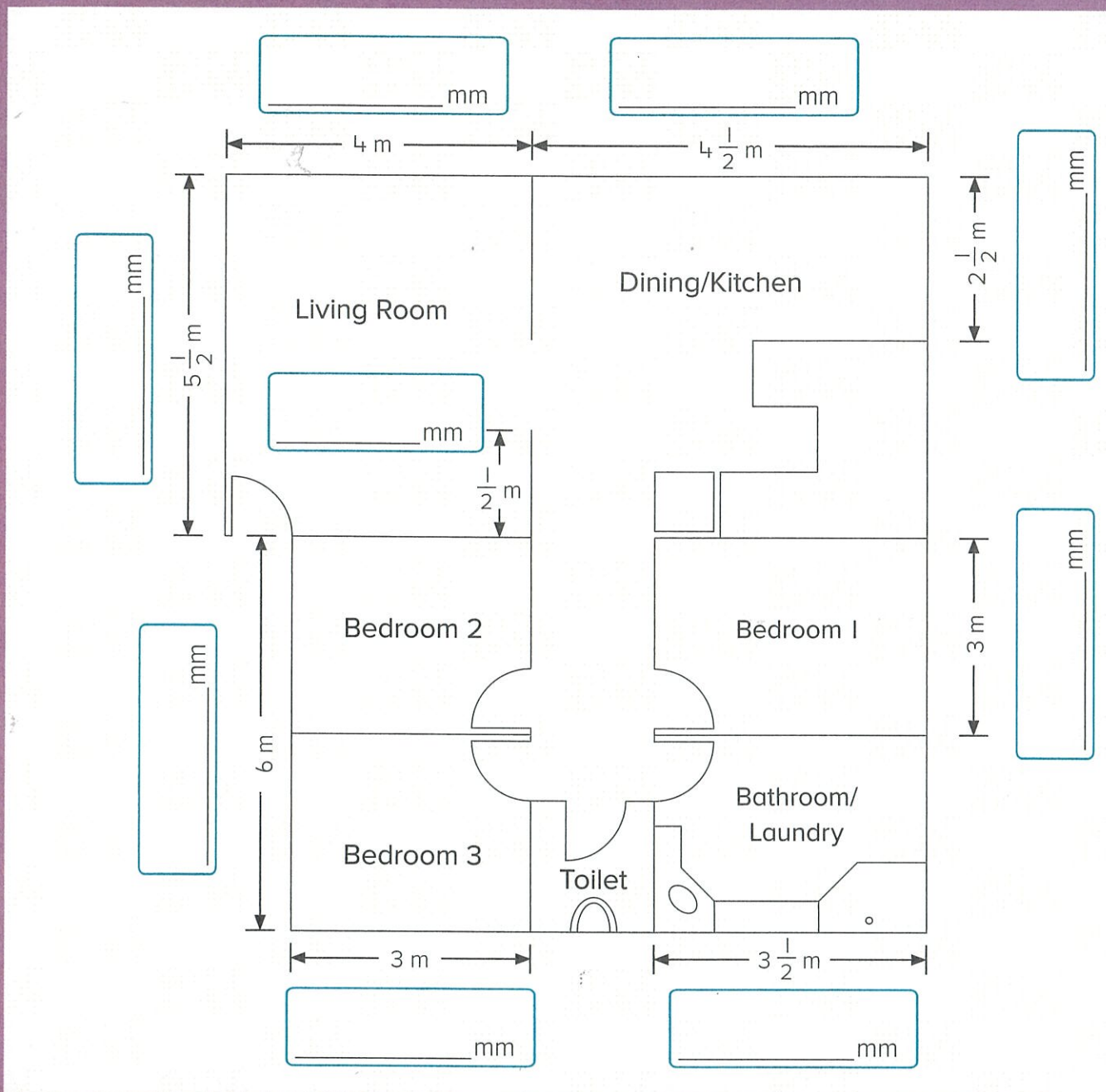
i.  $46\frac{1}{2}$  metres

is the same length as

\_\_\_\_\_ mm



2. Look at this floor plan. Write each dimension in millimetres.



### Step Ahead

Write numbers to complete this addition trail.

