

# WEEK 4 LESSON 4 & 5

**Starter: Are the following statements correct?**

$$4\frac{1}{2} \text{ km} > 4,000\text{m}$$

$$\boxed{5\frac{1}{2} \text{ km}} < \boxed{5,000\text{m}} > \boxed{6\text{km}}$$

**Starter: Are the following statements correct?**

$$4\frac{1}{2} \text{ km} > 4,000\text{m}$$

**True, 4,000m is smaller than 4,500m**

$$\boxed{5\frac{1}{2} \text{ km}} < \boxed{5,000\text{m}} > \boxed{6\text{km}}$$

**It is not correct because 5 km is equal to 5,500m which is more than 5,000m, and 6km is equal to 6,000m which is greater than 5,000m.**



## Learning Question:

How can I solve perimeter word problems?

## Success Criteria:

- Understand the meaning of a question
- Identify the important information
- Choose the right operation
- Use the formula  $2(L + W)$  to calculate the perimeter of a rectangle and  $4 \times L$  to calculate the perimeter of a square
- To be able to use the inverse to calculate missing measurements
- Identify the steps required to complete a 2 step problem

## Vocabulary

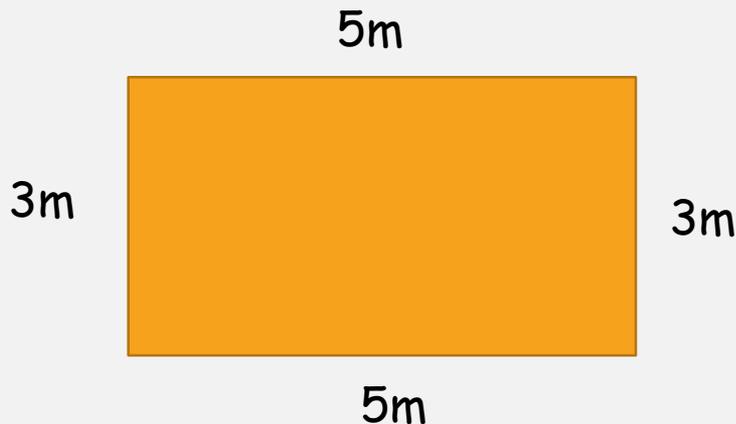
- Kilometre
- Meter
- Perimeter
- Rectilinear
- Measurement

# What are the steps to solving word problems?

1. Read the question. Decide what are you being asked?
2. What are the key numbers and words?
3. What operation do you need to do?
4. Write a number sentence.
5. Estimate the answer.
6. Calculate the answer.
7. Is the answer sensible (close to your estimate)?
8. Write the answer as a sentence

Let's use those steps to solve this word problem:

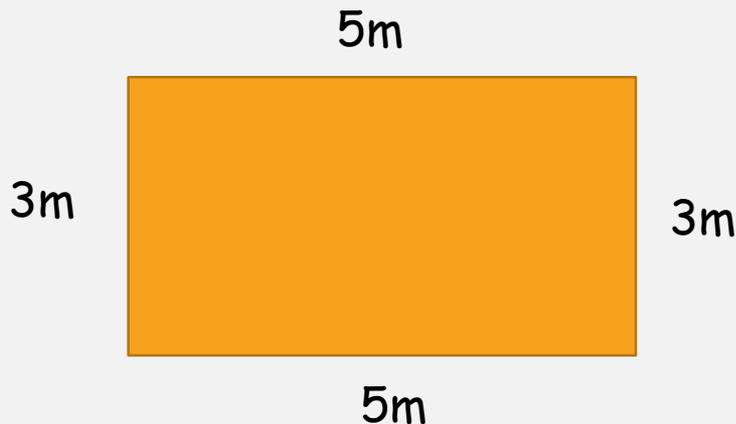
Isabella is making a display board for the school trip. The display board is a 5m by 3m rectangle. She needs to add a ribbon border around the entire display board. What is the length of ribbon that she needs?



$$3+3+5+5 =$$

## How did you do?

Isabella is making a display board for the school trip. The display board is a 5m by 3m rectangle. She needs to add a ribbon border around the entire display board. What is the length of ribbon that she needs?



$$3+3+5+5 = 16\text{m}$$

Isabella needs 16m of ribbon.

Try this one

Sam is putting up new fencing around his garden. The garden is a 10m by 7m rectangle. What is the total length of fencing that he needs?

How did you do?

Sam is putting up new fencing around his garden. The garden is a 10m by 7m rectangle. What is the total length of fencing that he needs? **Sam needs 34m of fence.**

Some word problems will need more than one calculation to solve them:

Max is putting up new fencing around his garden. The garden is a 11m by 4m rectangle. What is the total length of fencing that he needs? If the panels are each 2m long, how many will he need? The panels are £10 each. How much will it cost him to fence his garden?

## How did you do?

Max is putting up new fencing around his garden. The garden is a 11m by 4m rectangle. What is the total length of fencing that he needs? If the panels are each 2m long, how many will he need? The panels are £10 each. How much will it cost him to fence his garden?

$$11+11+4+4 = 30\text{m}$$

$$30 \div 2 = 15$$

$$15 \times 10 = 150$$

Max needs 15 panels of fencing.  
It will cost him £150

## L4 TASK – PICK A TASK AND ANSWER THE QUESTIONS

### Hard

1. Ruth has made a 22 cm square cake. What length of ribbon will she need to put around the outside?
2. How much decorative material is needed to go around the edge of a 30 cm square cushion?
3. Amina's patio is rectangular in shape and is 15 m  $\times$  12 m. Work out its perimeter.
4. Linzi is decorating a rectangular room that is 6m long and 7m wide. How much carpet tape will she need to go around the edge of the room?
5. Tom wants to put a string barrier around his lawn to keep people off while the new grass seed grows. The garden is a 5m by 6m rectangle. How much string will he need?

### Harder

1. A square has perimeter 48cm. What is the length of one of the sides?
2. A rectangle has perimeter 20cm. If the height of the rectangle is 4cm, what is the length of the rectangle?
3. At the playground, the new sandpit was 3m wide and 9m long. What is the perimeter of the sandpit?
4. Jamila is decorating a rectangular shaped lampshade 32cm  $\times$  35cm. She wants to put beading around the edge. What length of beading does she need?
5. Sophia wants to decorate her treasure box with washi tape. The box is square and one length is 16cm. How much tape will she need?

## Hardest

1. A rectangle has a height of 3cm. If the perimeter is 14cm what is the width?
2. The cross country team is running around the field which has a perimeter of 64m. They have run one of the longer lengths which was 22m, how long is the shorter length?
3. The square courtyard has a perimeter of 98m. What is the measurement of each length?
4. The tennis court has a perimeter of 28m. The short length is 6m, what is the measurement of the long length?
5. I want to decorate a box with ribbon. I have 32cm of ribbon and the square box has a length of 8cm. Will I have enough ribbon? Explain your answer.

## Herculean

1. The decorative trim for my cake costs £1.25 per metre. The square cake has lengths of 36cm. How many lengths of trim will I need, and how much will it cost me?
2. My flowerbed has a length of 2.4m and width of 1.6m. The edging I like costs £7 per metre. How many lengths will I need, and how much will they cost in total?
3. Jack has been asked to put a trim around the edge of a door. The door is 72cm wide and 185cm tall. How much edging will he need? It costs £1.50 per 1m strip. How much will it cost to decorate the door?
4. The shed is 2m by 3m. I want to hang bunting all around it and have bought a 6m length. It cost me £6. Will this be enough? If not, how much will I need and how much more will I need to spend?
5. John has been asked to plant some shrubs. The rectangular park he has been asked to surround with shrubs has a length of 12m. He really can't be bothered to measure the rest, but he is told that the width is exactly half the length. What is the perimeter of the park? If he plants a shrub every 2 metres how many shrubs does he need?

# ANSWERS

	Hard	Harder	Hardest	Herculean
1	88cm of ribbon is needed.	Each side is 12cm.	The width equals 4cm each side.	Need 2m of trim because the total needed is 144cm. It will cost £2.50.
2	120cm of material is needed.	The length is 6cm each side.	The shorter side is 10m.	Need 8m of edging. It will cost £56.
3	The perimeter of the patio is 54m.	The sandpit has a perimeter of 24m.	Each side is 24.5m.	Need 514cm of trim. Cost is £9 because you need to buy 6m of trim.
4	26m of carpet tape is needed.	134cm of beading is needed.	The long side is 8m in length.	Need 4m more of bunting. This will cost £4 more.
5	22m of string is needed.	64cm of tape is needed.	Yes it is enough. $8 \times 4 = 32$ . 32cm is enough.	The park has a perimeter of 36m. John will need 16 shrubs.