Name & Surname: _____ Class: _____ Date: _____

Line Graphs in Action

Compare, add and find the difference

About 30 minutes Level ★★★☆☆

How to solve graph problems

A **line graph** shows how something changes over time. Dots are joined with straight lines.

- Read the **title**, axes and **scale** first.
- Find the exact **value** on each dot by lining across.
- **Compare** to see more or less, subtract for **difference**, add for **sum**.

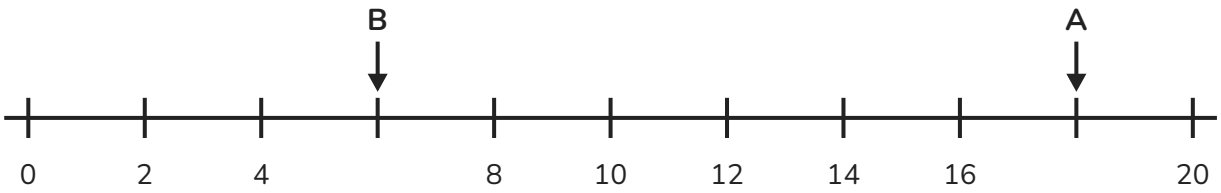


↑↓ Task A

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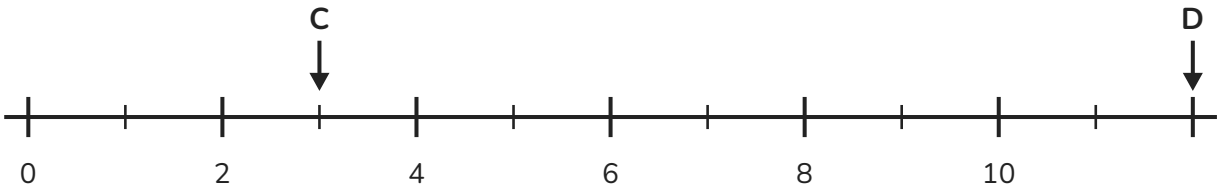
Practise reading the scale in steps. Read arrows A and B, then draw an arrow at the number given.

1



A = ☐ B = ☐ Draw an arrow to show: 10

2



C = ☐ D = ☐ Draw an arrow to show: 7

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Practise the Basics

Use graph values to compare, subtract and add.

Key words

line graph: dots joined to show change over time

sum: total found by adding together

trend: pattern of going up or down

comparison: finding which value is larger or smaller

difference: gap found by subtracting

Task B

/10

Use the graph values to find difference and sum.

WARM UP

1 A **line graph** shows water at 18°C at 0 mins and 36°C at 2 mins. Which time was **hotter**?

Answer: _____

2 Work out the **difference** between 36°C and 18°C.

Answer: _____

3 Work out the **sum** of 36°C and 18°C.

Answer: _____

PRACTISE

4 January sold 50 bikes and February sold 30 bikes. How many **more** bikes in **January**?

Answer: _____

5 How many bikes **altogether** in January and **February**?

Answer: _____

6 A plant was 3 cm in week 3 and 12 cm in week 8. Find the **difference** in **height**.

Answer: _____

7 Student A says the **difference** between 50 and 30 is 80. Explain the **mistake**.

Answer: _____

PROBLEM SOLVING

8 Water heats from 36°C to 61°C. What is the **rise** in **temperature**?

Answer: _____

9 Week 1 plant is 1 cm and Week 5 plant is 7 cm. Find their **total**, then how much **more** is that than Week 3 at 3 cm?

Answer: _____

10 On a line graph, the **line** goes up between Monday and Tuesday. What does that **show**? Explain how you know.

Answer: _____

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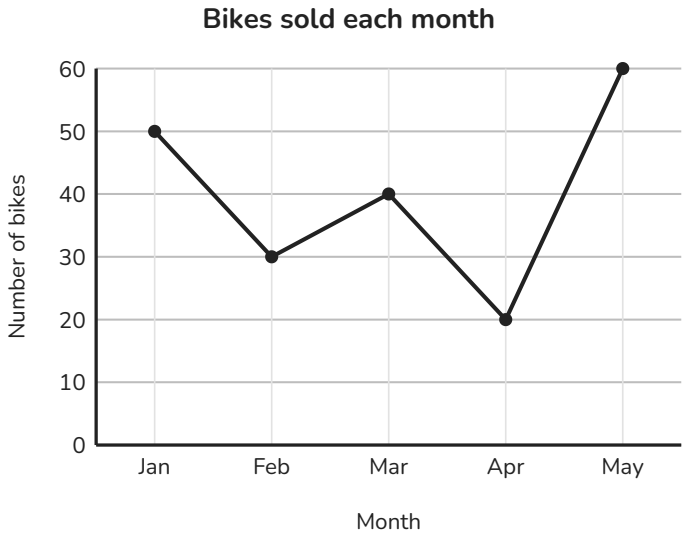
Bikes Each Month

Read the line graph to compare and total sales.

Task C

/4

Read the line graph to compare bike sales.



1. How many **bikes** were sold in **Jan**?

2. Which **month** sold the **most** bikes?

3. How many **more** bikes in Jan than **Feb**?

4. How many bikes were sold **altogether** in all **months**?

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Line Graphs in Action

Task D

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Use the line graphs to solve each comparison, sum and difference problem.

WARM UP

1 A **line graph** shows the **height** of a plant: Week 1 = 5 cm, Week 2 = 9 cm, Week 3 = 14 cm. What was the height in **Week 3**?

Answer: _____

2 Use the same **line graph** (Week 1 = 5 cm, Week 2 = 9 cm). What is the **difference** between Week 2 and **Week 1**?

Answer: _____

3 Use the same **line graph** (Week 1 = 5 cm, Week 2 = 9 cm). What is the **sum** of the heights for Week 1 and **Week 2**?

Answer: _____

PRACTISE

4 A **line graph** shows books borrowed: Monday = 25, Wednesday = 20, Friday = 40. What is the **difference** between Friday and **Wednesday**?

Answer: _____

5 Use the same **line graph** (Monday = 25, Tuesday = 30). What is the **sum** of Monday and **Tuesday**?

Answer: _____

6 Use the same **line graph** (Tuesday = 30, Thursday = 35). How many **more** books were borrowed on Thursday than on **Tuesday**?

Answer: _____

7 Use the same **line graph** (Monday = 25, Wednesday = 20, Thursday = 35, Friday = 40). How many **more** were borrowed on Thursday and Friday **together** than on Monday and Wednesday together?

Answer: _____

PROBLEM SOLVING

8 A **line graph** shows books borrowed all **week**: Monday = 25, Tuesday = 30, Wednesday = 20, Thursday = 35, Friday = 40. What is the **total** for the whole week?

Answer: _____

9 Use the same **week** data (busiest day Friday = 40, quietest day Wednesday = 20). What is the **difference** between the busiest and quietest **day**?

Answer: _____

10 A student says Friday (40 books) is exactly **double** Wednesday (20 books). Explain how **you know** whether they are **correct**.

Answer: _____

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Line Graphs in Action

Task E

Example done for you

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Put the steps for solving a line graph problem in the correct order.

- [ ] Decide if you need to compare, add for a sum or subtract for a difference.
- [ ] Write the calculation and work out the answer with units.
- [1] Read the title, axes labels and scale first.
- [ ] Find the dots you need and line across to read each value exactly.
- [ ] Check the answer makes sense against the graph.

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Line Graphs in Action

Task F

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Study each worked example, then try the similar question using the same method.

WORKED EXAMPLE

The line graph shows water in a tank: 9 am = 30 litres, 11 am = 22 litres. Work out the difference.

1. Line across from the 9 am dot to read 30 litres
2. Line across from the 11 am dot to read 22 litres
3. Subtract for difference: 30 - 22 = 8 litres

Answer: 8 litres

YOUR TURN

The line graph shows water in a tank: 1 pm = 45 litres, 3 pm = 28 litres. Work out the difference.

Answer: _____

WORKED EXAMPLE

The line graph shows visitors to a display: Saturday = 60, Sunday = 75. Work out the total.

1. Read the Saturday dot as 60
2. Read the Sunday dot as 75
3. Add for sum: 60 + 75 = 135

Answer: 135 visitors

YOUR TURN

The line graph shows visitors to a display: Monday = 45, Tuesday = 55. Work out the total.

Answer: _____

How did I do?

Circle a face for each line.

I can read exact values from a line graph.	☹	😐	☺
I can compare values and find the difference.	☹	😐	☺
I can add values to find the sum.	☹	😐	☺

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Answer sheet: Line Graphs in Action

Task A

1. A = 18; B = 6; arrows at 10
2. C = 3; D = 12; arrows at 7

Task B

1. 2 mins
2. 18°C
3. 54°C
4. 20 bikes
5. 80 bikes
6. 9 cm
7. Student A added; difference means subtract, 50-30=20
8. 25°C
9. 5 cm
10. It shows an increase because a line going up means the value got larger

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Task C

1. 50 bikes
2. May
3. 20 bikes
4. 200 bikes

Task D

1. 14 cm
2. 4 cm
3. 14 cm
4. 20 books
5. 55 books
6. 5 books
7. 30 books
8. 150 books
9. 20 books
10. They are correct because 20 × 2 = 40, so Friday is double Wednesday.

Task E

1. Read the title, axes labels and scale first. 2. Find the dots you need and line across to read each value exactly. 3. Decide if you need to compare, add for a sum or subtract for a difference. 4. Write the calculation and work out the answer with units. 5. Check the answer makes sense against the graph.

Task F

1. 17 litres
2. 100 visitors

Pictures: Microsoft Fluent Emoji (MIT)

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