MATHEMATICS · GRADES 7-9

Interpreting Real-World Graphs

Difficulty level: Intermediate

Mathematics: Grades 7-9

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Overview of the concept

This is how you read a graph of something changing, like the temperature through a day or water filling a tank, and say in words what happened and when. A graph is a story told in a picture, and reading it means turning that picture back into plain words about what rose, what fell, and when it changed. You use it to read a weather chart, a fitness tracker, or a water tank gauge, and to explain to someone else what the graph actually shows.

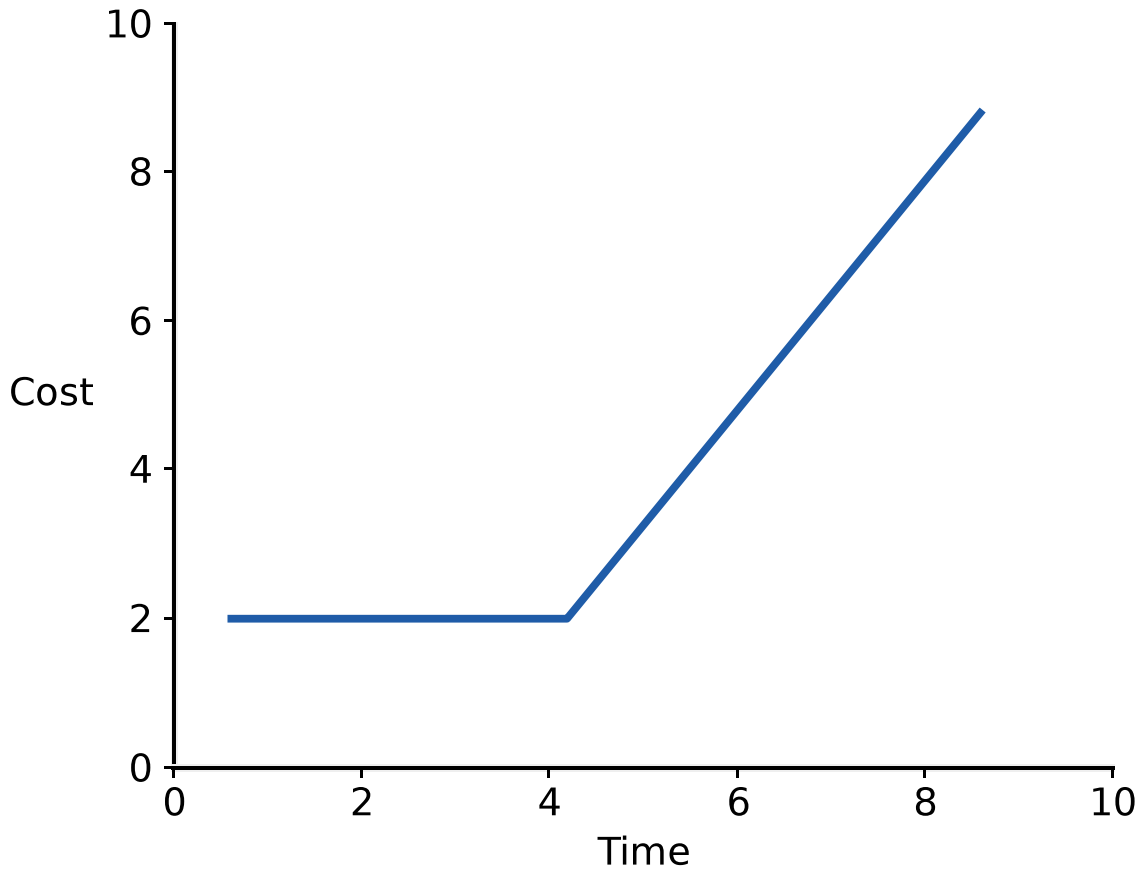


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Worked examples

EXAMPLE 1

Q A phone call's cost is graphed over time: flat for a while, then rising steeply. What happened?



SOLUTION

This is a describe-the-graph question, and the one rule to remember is to read the graph left to right and say what changes at each stage.

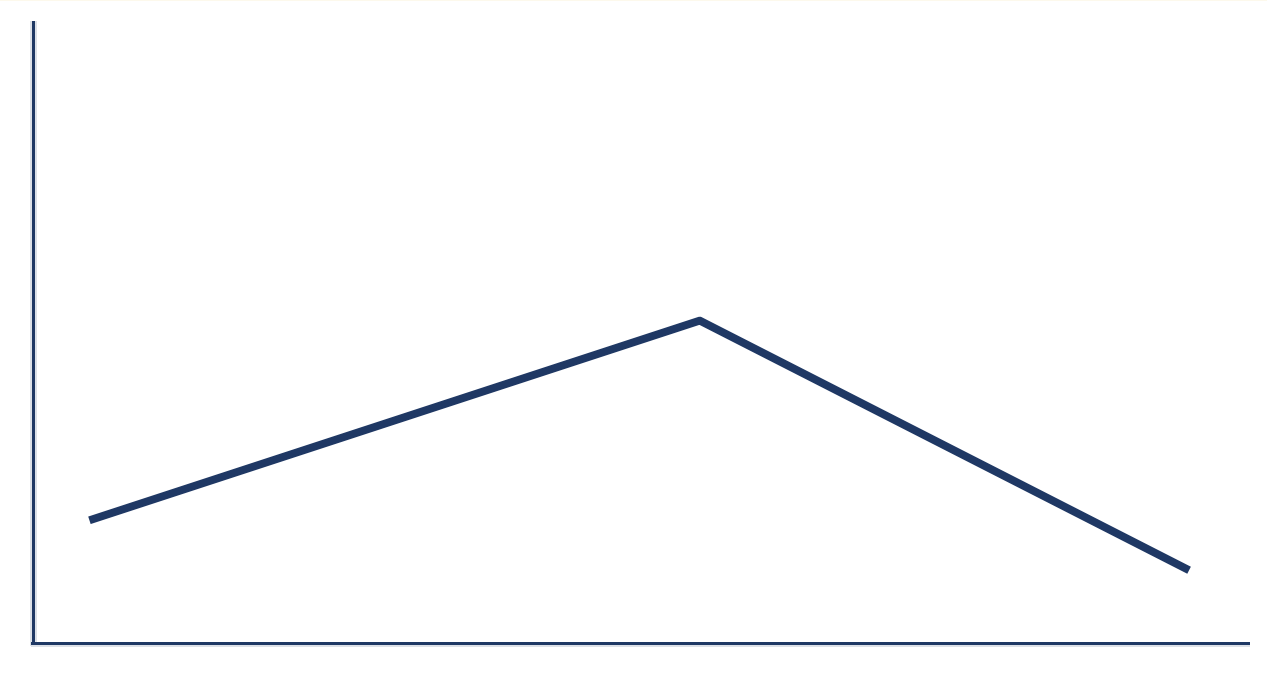
The flat part means the cost stayed the same for a while.

Then the graph rises steeply, so the cost rose quickly after that.

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EXAMPLE 2

Q A kite's height is graphed over time: it rises slowly, then falls. What happened?



SOLUTION

Read it left to right: the height rises slowly first.

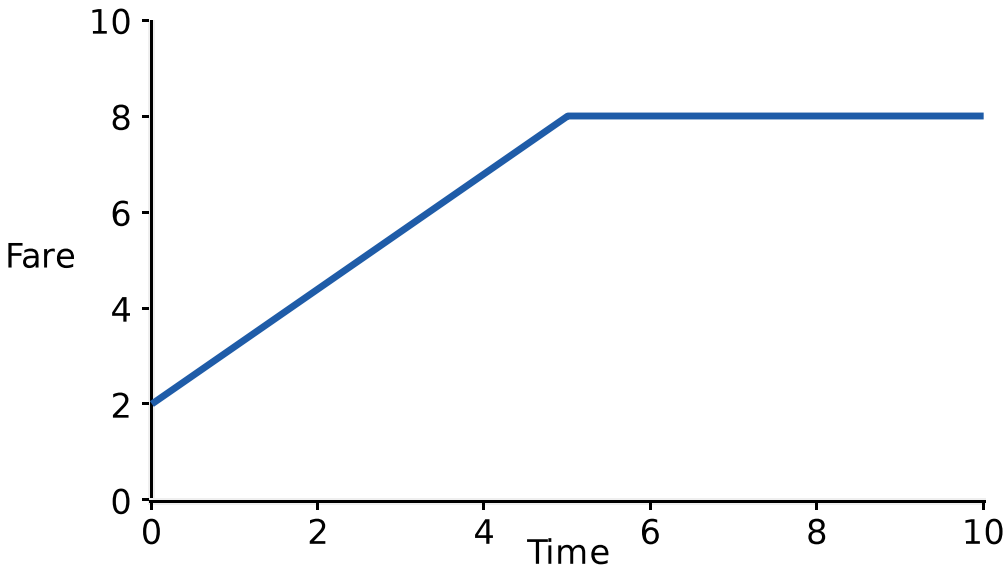
Then it falls.

So the kite rose slowly, then fell.

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Practice questions

1 A taxi fare is graphed over time. How did the taxi fare change over time?

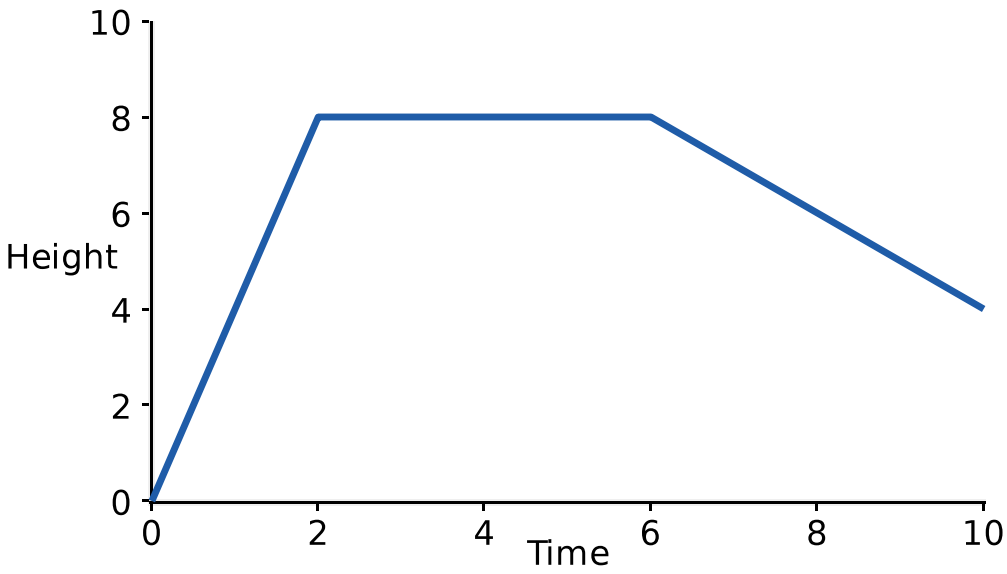


- **A** The fare stayed the same for a while, then rose quickly
- **B** The fare rose steadily, then stayed the same
- **C** The fare fell steadily the whole time
- **D** The fare rose, then fell to zero

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2 **When was the balloon's height changing fastest: at the start, when it rose, or at the end, when it fell?**



A At the start

B At the end

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3

A car's distance is graphed over 6 hours. The graph is flat from hour 2 to hour 4. What does the flat section mean?

A The car stopped for 2 hours

B The car stopped for 4 hours

C The car drove at a steady speed for 2 hours

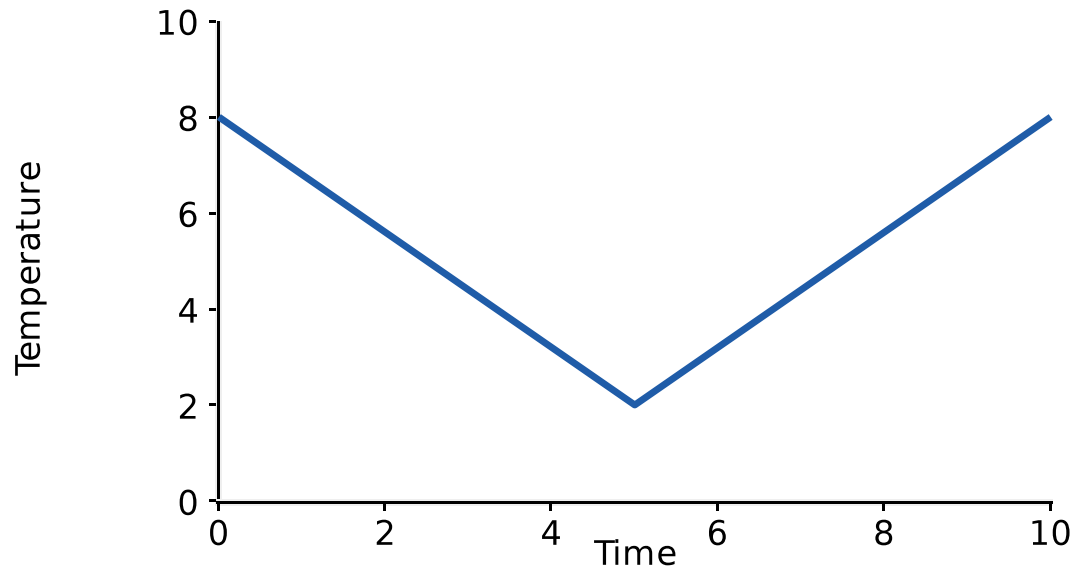
D The car went backwards for 2 hours

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4 The temperature in a greenhouse over a day is graphed. How many hours into the day did the temperature stop falling?



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5 A cyclist's distance is graphed. In the first 2 hours the cyclist travels 30 km. What was the cyclist's speed in the first 2 hours?

- **A** 30 km/h
- **B** 15 km/h
- **C** 60 km/h
- **D** 2 km/h

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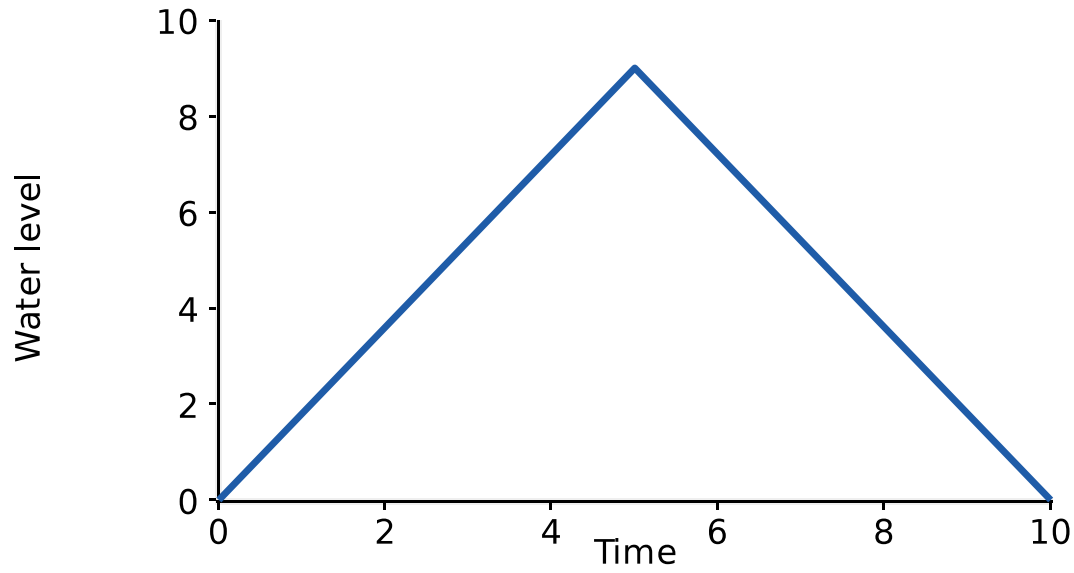
6 A tree's height over years is graphed. Which shape fits?

- **A** A flat line
- **B** A line rising steadily forever
- **C** Rising and then levelling off (trees stop growing)
- **D** A line falling steadily

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7 **The tank's water level rises to a peak, then falls back to zero. Did it rise for longer than it fell, fall for longer, or take the same time for both?**



- **A** It rose for longer
- **B** It fell for longer
- **C** The same time for both

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8

A graph of a runner's distance has a steep section. Does it show fast or slow change?

A Fast

B Slow

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9

A car’s distance graph is a straight line rising steadily. What does that tell you about the car’s speed?

A It stayed the same

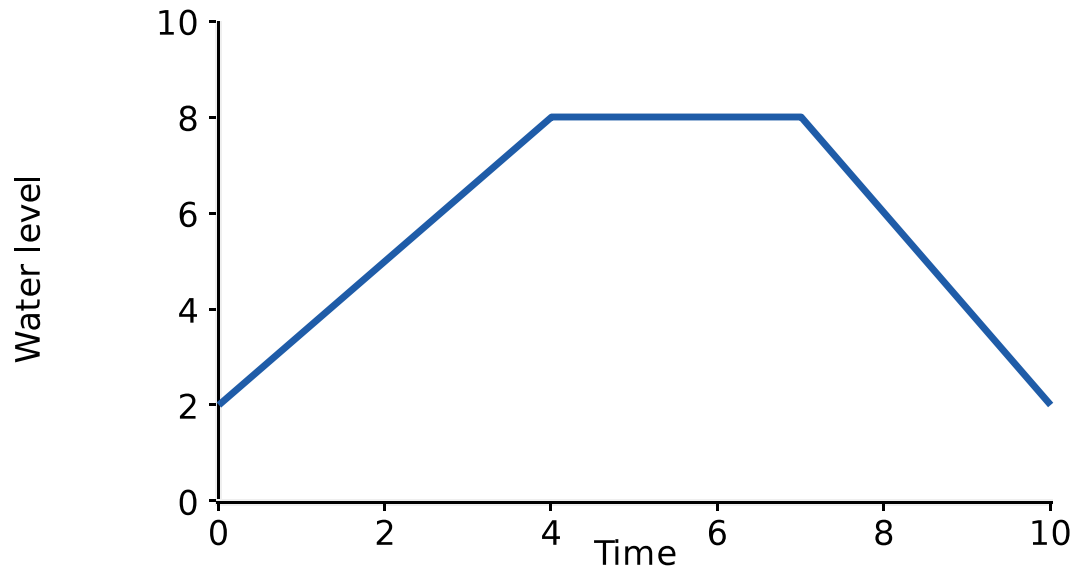
B It got faster and faster

C The car stopped

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10 **A tank's water level is graphed over 10 hours. For how many hours did the water level stay the same?**



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ANSWER KEY

1. The fare rose steadily, then stayed the same
2. At the start
3. The car stopped for 2 hours
4. 5
5. 15 km/h
6. Rising and then levelling off (trees stop growing)
7. The same time for both
8. Fast
9. It stayed the same
10. 3

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