Extra Content for Foundation GCSE

111. Interpreting the Gradient of a Graph as a Rate of Change

Practice Questions

1. A car's speed-time graph shows a gradient of 4 m/s². What does this represent?
2. A water tank is being filled, and its graph shows a gradient of 3 litres per minute. What does this mean?
3. A population growth graph shows a gradient of 500 people per year. What does this indicate?
4. A cyclist's distance-time graph has a gradient of 12 km/h. What does this tell us?
5. A company's profit-time graph shows a gradient of £200 per month. What does this mean?
6. A taxi fare graph has a gradient of £2 per mile. What does this represent?
7. A train accelerates and its speed-time graph shows a gradient of 1.5 m/s². What does this mean?
8. A car's fuel consumption graph has a gradient of -0.1 litres per km. What does this represent?
9. A river's water level increases over time, with a gradient of 0.5 m per hour. What does this mean?
10. A factory's production graph has a gradient of 50 items per day. What does this indicate?

Scenario Questions

1. A runner's distance-time graph shows a gradient of 5 m/s. What does this mean for their running pace?
2. A construction site is building floors in a skyscraper, and the graph shows a gradient of 2 floors per week. Interpret this rate of change.
3. A farm produces eggs, and the production graph has a gradient of 200 eggs per day. What does this tell us about the farm's efficiency?
4. A hospital records patient admissions per week, and the graph shows a gradient of 30 patients per week. What does this mean?
5. A shop's revenue-time graph has a gradient of £150 per day. What does this indicate about the shop's sales?
6. A cyclist moves at a steady rate, and their distance-time graph shows a gradient of 15 km/h. Interpret this.
7. A phone battery's charge graph has a gradient of -5% per hour. What does this mean?
8. A bridge is sinking into the ground, and the height-time graph shows a gradient of -2 cm per year. What does this tell us?
9. A heating system raises the room temperature, and the temperature-time graph has a gradient of 1.2°C per minute. What does this mean?
10. A tree's growth is monitored, and the height-time graph shows a gradient of 0.3 m per year. What does this indicate?

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111. Interpreting the Gradient of a Graph as a Rate of Change

Practice Questions

1. The gradient represents an acceleration of 4 m/s².
2. The tank is being filled at a rate of 3 litres per minute.
3. The population is increasing by 500 people per year.
4. The cyclist is moving at a constant speed of 12 km/h.
5. The company's profit is increasing by $200 per month.
6. The fare increases by $2 for every mile travelled.
7. The train is accelerating at 1.5 m/s².
8. The car's fuel consumption decreases by 0.1 litres per km.
9. The water level is rising at 0.5 metres per hour.
10. The factory is producing 50 items per day.

Scenario Questions

1. The runner is moving at a constant speed of 5 m/s.
2. The construction site is building 2 floors per week.
3. The farm is producing 200 eggs per day.
4. The hospital is admitting 30 more patients each week.
5. The shop's revenue is increasing by $150 per day.
6. The cyclist is moving at a constant speed of 15 km/h.
7. The phone battery is losing charge at a rate of 5% per hour.
8. The bridge is sinking at a rate of 2 cm per year.
9. The room temperature is increasing at 1.2°C per minute.
10. The tree is growing at a rate of 0.3 metres per year.