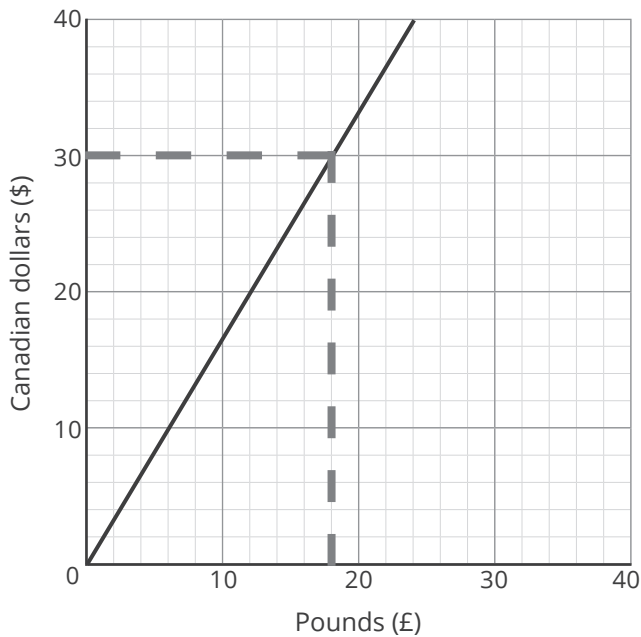


Real Life Graphs **Answers**

1. The graph shows the currency conversion from Canadian dollars (\$) to pounds (£). Use the graph to convert 30 Canadian dollars into pounds.



Answer between £17 and £19

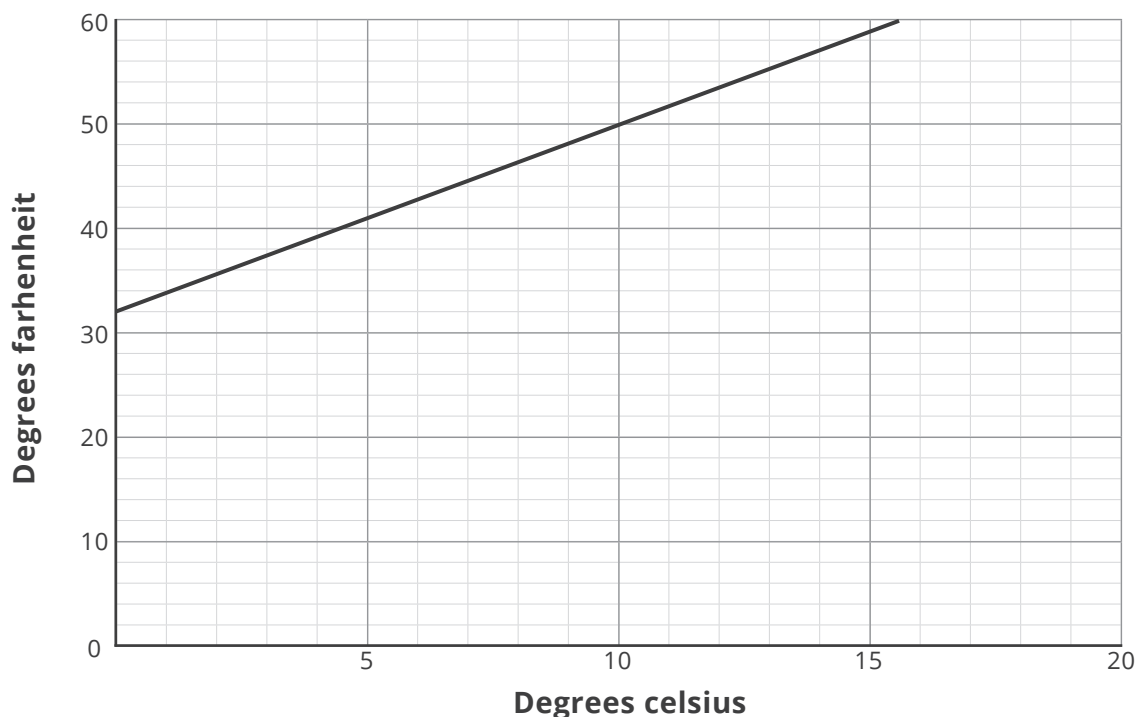
2. Below is part of the graph used to convert between degrees celsius and degrees fahrenheit.

- a. Given that 0°C can be converted to 32°F , label the x and y axes.
- b. Use the graph to change 50°F into celsius.

10°C

- c. Use the information in the graph to estimate 20°C in fahrenheit.

20°C is 68°F , but expect pupils to estimate in the vicinity of 70°F based on tracing the line through.

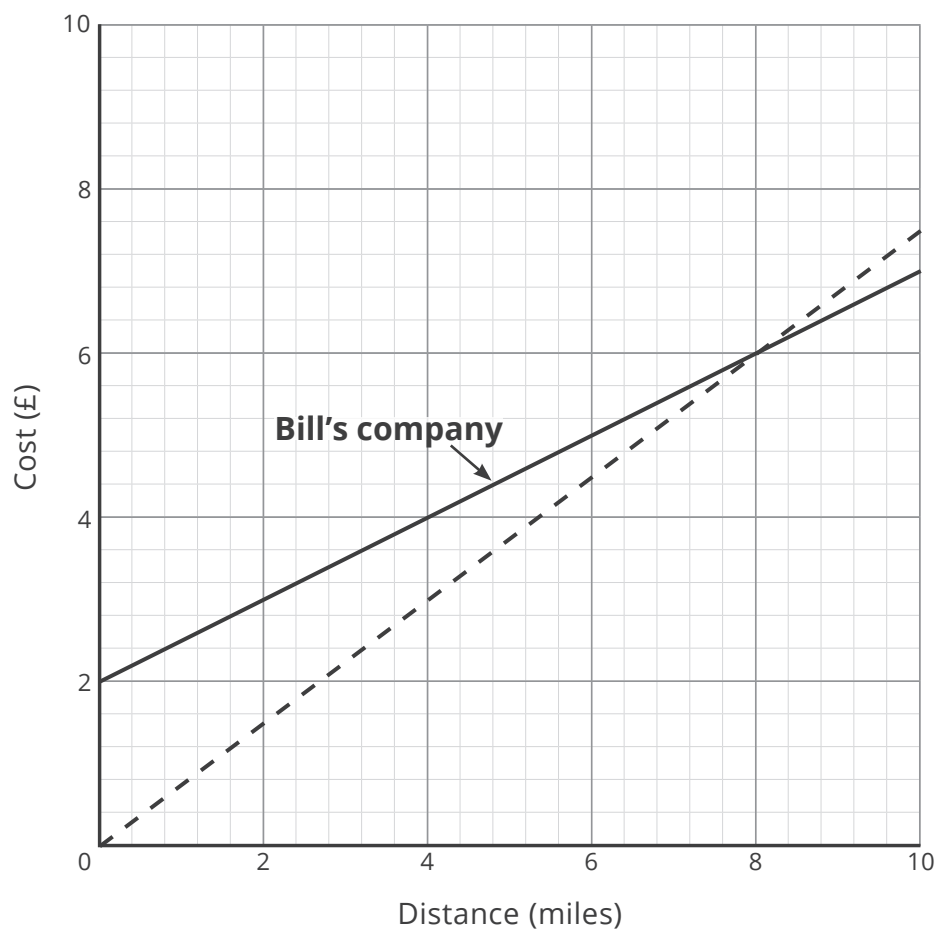


3. Bill's taxi company currently charges a callout fee of £2 plus 50p per mile.
- Label the line which represents charges for Bill's taxi company.
 - The other line shows charges for Carl's taxi company. Explain how we can tell that there is no callout fee and write down the cost per mile.

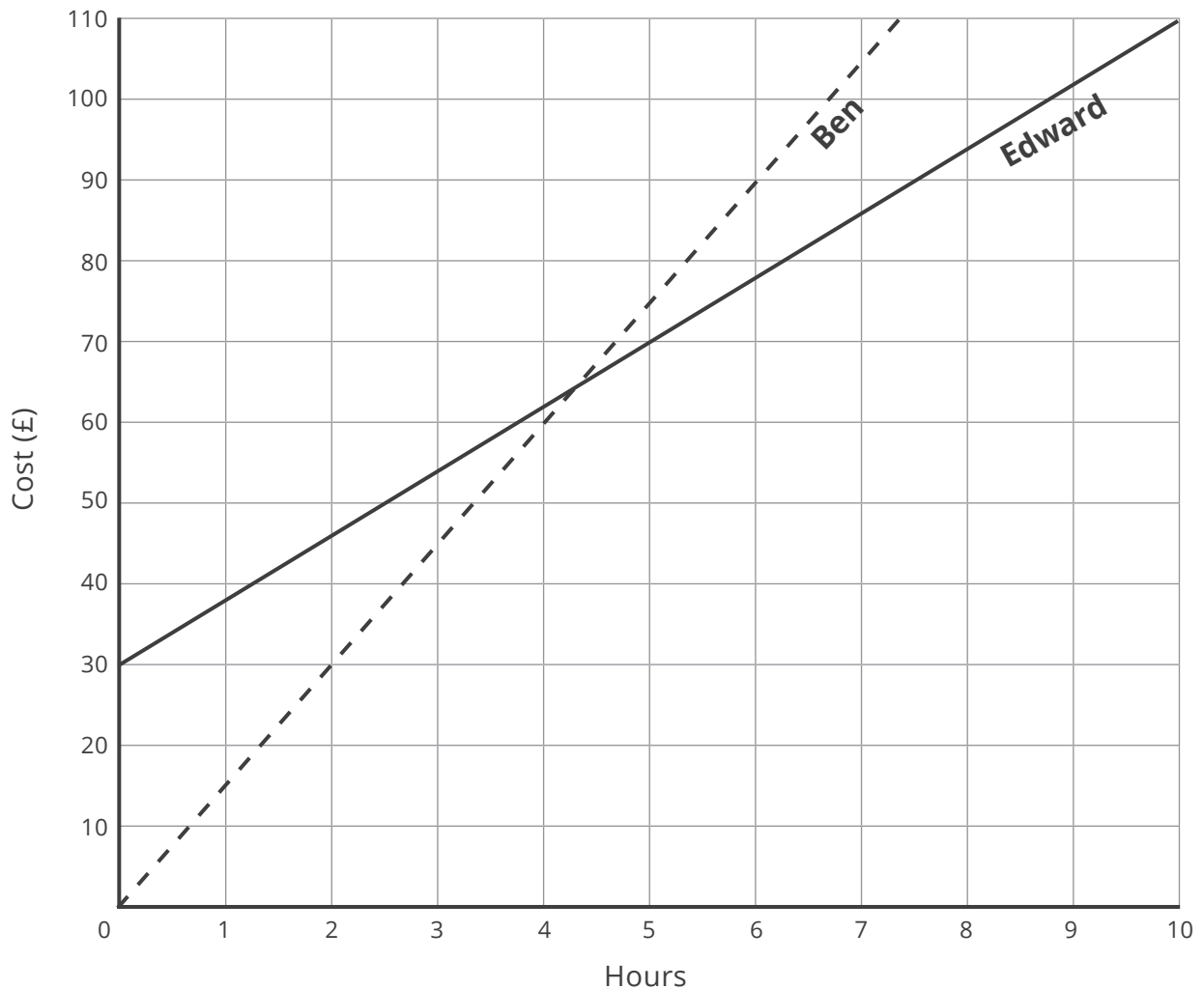
The line begins at the origin (0, 0), meaning there is no charge before any miles are driven. The cost per mile is 75p (4 miles is £3 and 8 miles is £6).

- By referring to the graph, discuss which taxi company is better value for money.

Carl's taxi company is better value for money for journeys up to 8 miles. For a journey of exactly 8 miles, the companies cost the same. After 8 miles, Bill's company is better value for money.



4. Edward is a plumber. He charges £8 per hour plus a £30 callout fee. Draw a graph representing this information from $0 \leq x \leq 10$ hours.



5. Ben is also a plumber. He charges £15 per hour but no callout fee. On the grid above, draw a graph representing this information. Use your graph to decide which plumber is better value for money. Remember: as both plumbers charge per hour, any partial hours worked are rounded up to the next hour.

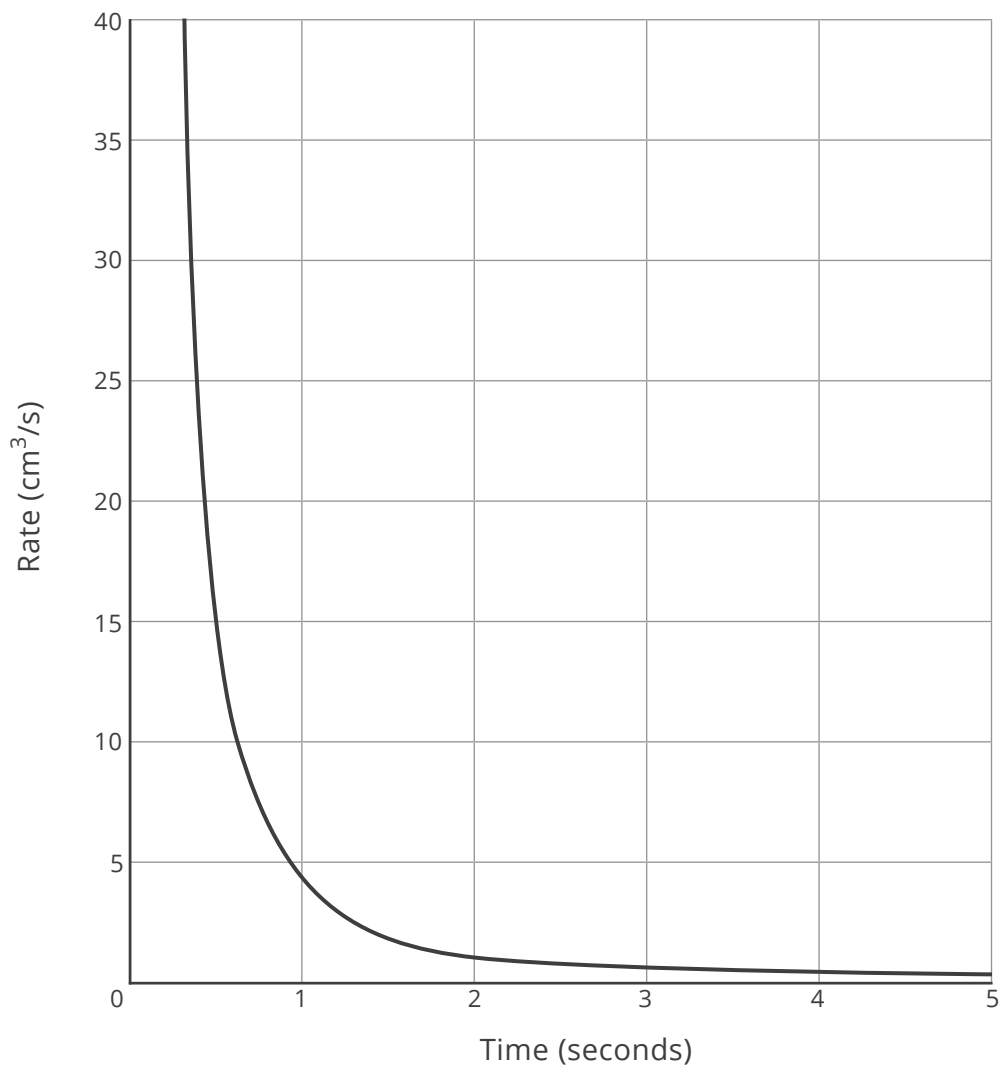
Ben is better value for money up to 4 hours. At 5 hours and above, Edward is better value for money. (The plumbers cost exactly the same for roughly 4.3 hours of work, but only work in units of complete hours.)

6. The rate (cm^3/s), r , at which a container empties over time in seconds, t , is given by the formula $r = \frac{4}{t^2}$.
- a. Explain why t cannot be a negative number.

Time can never be a negative number.

- b. Use your calculator to draw a graph representing this information.

| | | | | |
|-----|-----------|----------|----------|-------------|
| t | 0.5 | 1 | 2 | 4 |
| r | 16 | 4 | 1 | 0.25 |

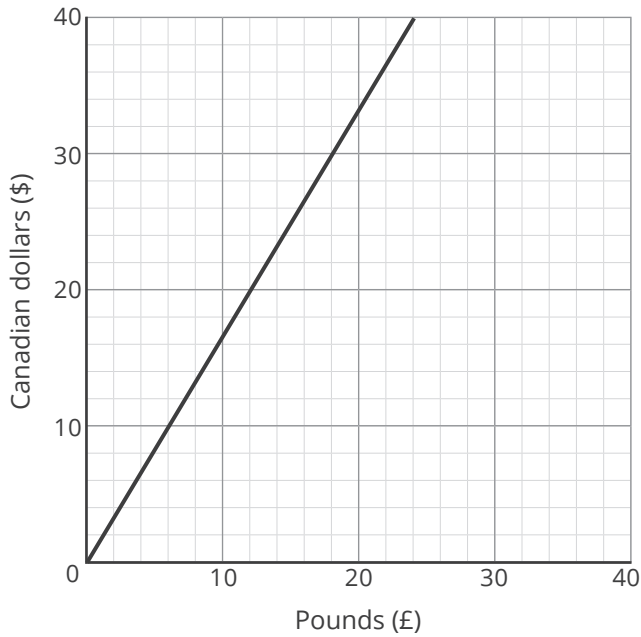


- c. Use your graph to estimate the rate at which the container is emptying at 1.5 seconds.

1.5 - 2.5 cm^3/s

Real Life Graphs

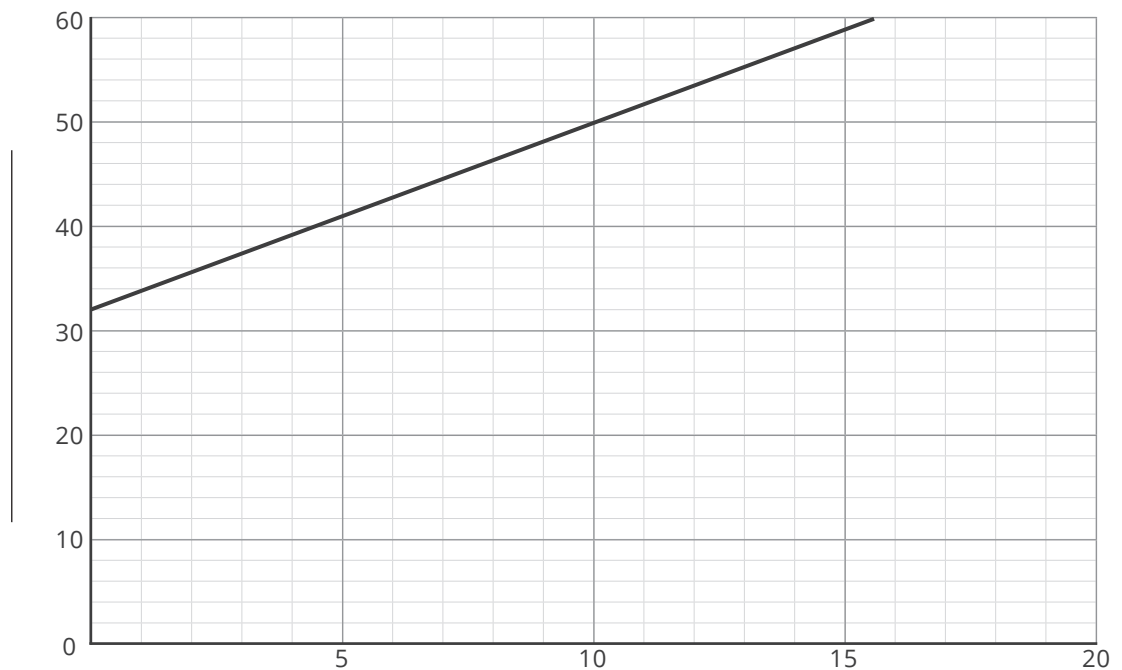
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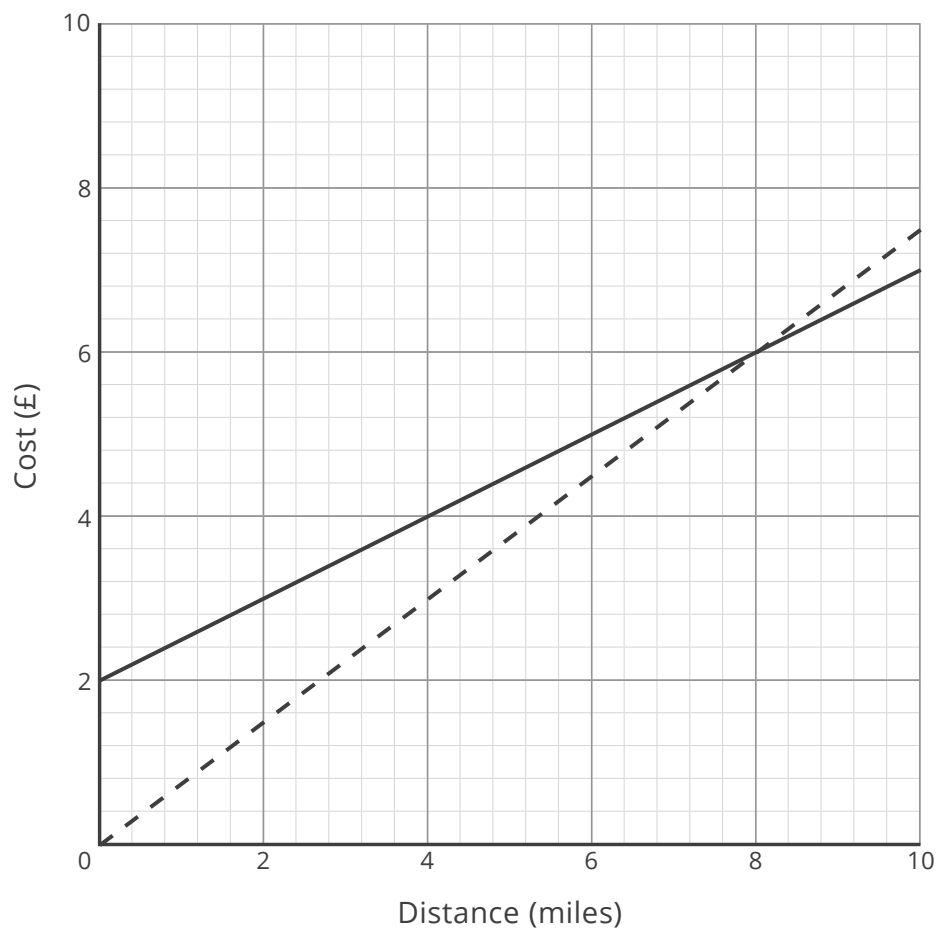
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| | | | | |
|-----|-----|---|---|---|
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| r | | | | |



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