

Push Tasks Answers



1. $m = \frac{70 - 20}{10} = 5, c = 20.$
 $y = 5x + 20.$ At $x = 6$: $y = 50.$

2. $m = \frac{90 - 30}{10} = 6, c = 0. y = 6x.$
At $x = 20$: $y = 120.$ Extrapolation.

3. $y = 0.5(50) + 2 = 27 \text{ kg.}$
Unreliable: extrapolates past
 $x = 30$; change may not stay linear.

4. Interpolation is within the data (reliable); extrapolation is beyond it (less reliable).

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5. Trust the strong-correlation line – points sit closer to it, so predictions are more certain.

6. 4 points can be skewed by one unusual point; 40 points give a more stable trend.

7. Extrapolates far outside $10\text{--}30^{\circ}\text{C}$; negative sales make no real-world sense.

8. A hidden factor can drive both – e.g. hot weather raises ice-cream sales and drownings alike.

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9. Gradient -2 , y -intercept 300 :
 $y = 300$ when $x = 0$.

10. $200 = -2x + 300 \Rightarrow x = 50$

11. Far beyond the 5-year data range – conditions can change and the trend may not hold.

12. The relationship has shifted over time – the model should be updated with recent data.