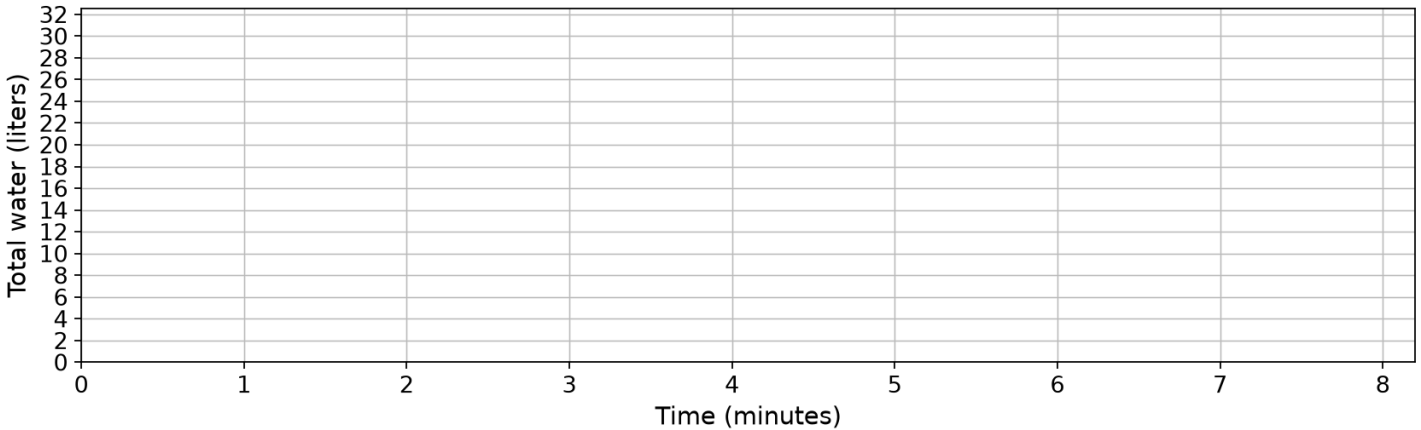


Linear Relationships Follow-up Check

1 Recover a decreasing model

A supplied continuous linear model of water remaining V is valid for $0 \leq t \leq 8$ minutes. Its points are $(2, 16.5)$ and $(6, 9.5)$, with minutes first. Find the signed change rate and total at zero. Write a rule, check both points and complete the table. Explain what the negative rate means and whether remaining water is proportional to time.

Time (minutes)	Water remaining (liters)
0	
2	16.5
6	9.5
8	



Rule, units and explanation; plot or describe the points

Linear Relationships Follow-up Check

2 Compare two decreasing models; 3 limit the prediction

2 Another supplied model

For the same 0-to-8-minute domain, $W = 17 - 0.75t$ gives water remaining in liters. Which has the greater signed change rate? Which loses more liters per minute? Compare totals at minutes 1 and 8 and find the equality time. Explain why greater starting water need not mean more water throughout the domain.

Your signed-rate and output comparisons

3 Beyond the domain

Someone uses your rule from problem 1 to announce an actual amount at minute 10. Explain what the stated model establishes and what an extension beyond minute 8 would require.

Your model-boundary explanation

Linear Relationships Follow-up Check

4 A signed reference in a new setting

A constructed continuous linear Celsius-temperature model is valid for $0 \leq t \leq 6$ minutes. It gives $(1, -4)$ and $(4, 2)$, with minutes first. Find its signed change rate, zero-time value and rule. Verify both points. What temperature does the model give at minute 3? Explain why a positive rate can go with a negative starting temperature.

Rate, zero-time value, rule and interpretation
