

Linear Relationships Later Transfer

1 A whole-panel layout

An invented layout model relates complete panel count n to total strip length L in meters, including a fixed reserve. The relationship is supplied as linear for whole-number n from 0 to 8. Points are (2, 6) and (6, 11).

Find the change per panel and the reserve at zero panels. Write and verify a rule. Predict the total for 4 panels. Is total length proportional to panel count? A learner evaluates the expression at $n = 2.5$. Does that give an allowed complete-panel layout under these conditions? Explain.

Rate, reserve, rule, prediction and allowed-input explanation

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2 A continuous model with no stated zero-time reading

An invented continuous linear temperature model C is valid only for $2 \leq t \leq 8$ minutes. Its points are (2, 20) and (5, 14), with minutes first and degrees Celsius second. Another supplied model D is constant at 13 degrees Celsius over the same domain.

Find C's rate and a matching linear expression. What algebraic value does that expression give at $t = 0$, and does it establish a temperature there under the stated model? Find D's rate. Which temperature is greater at minutes 2 and 8, and when are the temperatures equal? Explain why a zero rate need not mean zero temperature.

Your models, comparisons and qualified zero-time interpretation
