

Solutions

2.1 B Measure rate using product formed per unit time or a fixed endpoint. For an endpoint test, $1/\text{time}$ is a rate proxy if the same amount of product or substrate change defines the endpoint each time.

2.2 rate proxy = $1/t = 1/50 = 0.020 \text{ s}^{-1}$.

2.3 False. An optimum is specific to the enzyme and conditions. Low temperature usually slows the reaction; it does not necessarily denature the enzyme. Endpoint intervals limit precision.

2.4 enzyme. enzyme means A biological catalyst.

3.1 No: endpoints differ. Relative product/time values are $1/20$ and $2/30$; the second average is $4/3$ of the first under comparable conditions. Reciprocal-time comparison requires the same endpoint.