
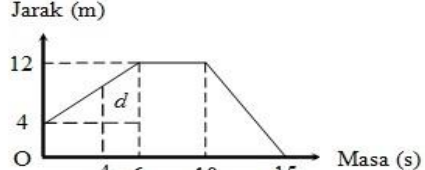


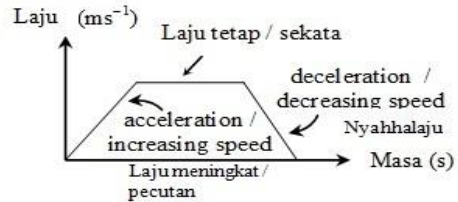
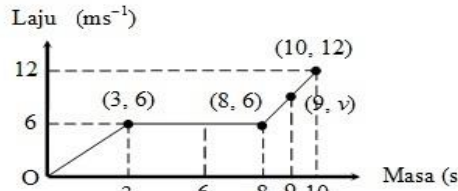
**(28) KECERUNAN DAN LUAS DI BAWAH GRAF
GRADIENT AND AREA UNDER A GRAPH**

(a) GRAF JARAK MELAWAN MASA (Distance-time graph)

	<ul style="list-style-type: none"> • Laju (speed) = $\frac{\text{perubahan jarak}}{\text{perubahan masa}}$ • Purata Halaju = $\frac{\text{jumlah perjalanan dilalui}}{\text{jumlah masa diambil}}$
<p>Contoh :</p>  <p>⇒ jarak dilalui dalam 6 saat pertama = 8 m</p> <p>⇒ laju, 6 s pertama = $\frac{8 \text{ m}}{6 \text{ s}} = \frac{4}{3} \text{ ms}^{-1}$</p>	<p>⇒ jarak 5 s terakhir = 12 m</p> <p>⇒ laju, dlm kmh^{-1}, 5 s terakhir</p> $= \text{speed in the last } 5 \text{ s} = \frac{\frac{12}{1000} \text{ km}}{\frac{5}{3600} \text{ h}} = 8.64 \text{ kmh}^{-1}$ <p>⇒ Masa berhenti = 4 s</p> <p>⇒ Purata laju, dim ms^{-1}, selama 15 s = $\frac{20 \text{ m}}{15 \text{ s}}$</p> <p>⇒ Jarak masa dalam 4 s pertama = ???</p> <p>Laju semasa 4 s = laju semasa 6 s (yg awal)</p> $\frac{d}{4} = \frac{8}{6} \Rightarrow d = \frac{8}{6}(4) \Rightarrow d = 5\frac{1}{3} \text{ m}$

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(b) KELAJUAN MELAWAN MASA (Speed-time graph)

	<ul style="list-style-type: none"> • Jarak = luas dibawah graf • Perubahan halaju = kecerunan di bawah graf • Kadar perubahan halaju +if ⇒ pecutan • Kadar perubahan halaju -if ⇒ nyahpecutan
<p>Example :</p>  <p>⇒ Jarak dilalui 3s pertama = $\frac{1}{2}(3)(6) = 9 \text{ m}$</p> <p>⇒ Jarak semasa halaju sekata (uniform speed) = $(5)(6) = 30 \text{ m}$</p> <p>⇒ Jarak dilalui pada 2 s terakhir = $\frac{1}{2}(6+12)(2) = 18 \text{ m}$</p> <p>⇒ Jarak dilalui 6 s pertama = $\frac{1}{2}(3+6)(6) = 27 \text{ m}$</p>	<p>⇒ halaju sekata = 6 ms^{-1}</p> <p>⇒ panjang masa sewaktu bergerak dengan laju tetap = 5 s</p> <p>⇒ Purata halaju dalam 10 saat = $\frac{57 \text{ m}}{10 \text{ s}} = 5.7 \text{ ms}^{-1}$</p> <p>⇒ the rate of change in speed in the first 3 s = $\frac{6-0}{3-0} = 2 \text{ ms}^{-2}$</p> <p>⇒ pecutan 2 s terakhir = $\frac{12-6}{10-8} = 3 \text{ ms}^{-2}$</p> <p>⇒ pecutan di saat terakhir = ???</p> $\frac{v-6}{9-8} = \frac{12-6}{10-8}$ $v-6 = 3$ $v = 9$

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