



Name: Group: Mark

- 1-a) The speed of light is 3×10^8 m/sec. Express this speed in km/hr? (2 marks)
- (b) The velocity v of a particle depends upon time t , according to the equation $v = a + bt$.
Write the dimensions of a , b (2 marks)
- (c) Sketch a diagram for the Stress-Strain behavior of ductile materials. Give a short discussion on the factor of safety, and % elongation. (6 Marks)
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- 2-a) A temperature scale X has an ice point of 40 and a steam point of 240. What is the temperature in X when the Celsius temperature is 30°C (4 Marks)
- (b) If 10g of steam at 100°C is introduced into a mixture of 100g of water and 80g of ice. find the final temperature and composition of the mixture (take $c_{\text{ice}} = 0.5 \text{ cal/g}^\circ\text{C}$, $c_{\text{water}} = 1 \text{ cal/g}^\circ\text{C}$, $L_{\text{f ice}} = 80 \text{ cal/g}$, $L_v = 540 \text{ cal/g}$) (6 Marks)
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Good luck

Prof. Abed Nasr