King Fahd University of Petroleum and Minerals - Department of Mathematics and Statistics

MATH101 - QUIZ 3

Term 181

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$\boxed{\textbf{Give all details}}$

1. The sides of an equilateral triangle are increasing at a rate of 1cm/min. At what rate is the area of the triangle increasing when the sides are 4cm long ?

2. The position of a particle is given by $s(t) = 2t^3 - 9t^2 + 12t + 5$, $t \geqslant 0$, where t is measured in seconds and s in meters. The distance in meters traveled during the first 3 seconds is ?

3. Let
$$f(x) = \left(\sin \frac{\pi x}{2} \right)^{\ln x},$$
then $f'(1) = ?$