

Math 301-123 Quiz 1

Name:.....Sec#:.....ID#:.....Ser#:.....

Q.1: Evaluate $\int_0^4 \frac{1}{1+t^2} (3\hat{\mathbf{i}} - 3t\hat{\mathbf{j}} + t^2\hat{\mathbf{k}}) dt$

Q.2: Find the directional derivative of $f(x, y) = \frac{3xy}{x-y}$ at $(-1, -2)$ in the direction of the vector $3\hat{\mathbf{i}} - 4\hat{\mathbf{j}}$

Q.3: Find equation of tangent line to the curve $\vec{r}(t) = t\hat{\mathbf{i}} + \frac{1}{2}\hat{\mathbf{j}} + \frac{1}{3}\hat{\mathbf{k}}$ at $t = 3$