

Marks Distribution 5+5+5

1. Solve the inequality by using sign table and line graph

$$\frac{(x-4)(x+2)}{(x-1)} \geq 0$$
2. Find $\frac{dy}{dx}$ for the following function, $x^y + y^x = 1$
3. Differentiate $\tan^{-1}\left(\frac{2x}{1-x^2}\right)$ with respect to
 $\sin^{-1}\left(\frac{2x}{1+x^2}\right)$