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Q1: a

$$i) y = \frac{x^2}{2x+1} \quad / \quad \frac{u}{v}$$

$$= \frac{2x(2x+1) - 2x^2(1)}{(2x+1)^2}$$

$$= \frac{(4x^2 + 2x) - (2x^2)}{(2x+1)^2}$$

$$= \frac{(2x^2 + 2x)}{(2x+1)^2}$$

$$\frac{u'v - v'u}{v^2}$$

$$u = x^2 \quad u' = 2x$$

$$v = 2x+1 \quad v' = 2$$

Ans:

$$y' = \frac{2x^2 + 2x}{(2x+1)^2}$$

$$ii) y = \sqrt{x^2+1}$$

$$u = x^2+1$$

$$v = \sqrt{}$$

$$u' = 2x$$

$$v' = \frac{1}{2\sqrt{}}$$

Ans: $y' = \frac{x}{x^2+1}$