

Quiz 4

$$\textcircled{1} \text{ Domain} = \{x : \frac{1}{\sqrt{x-3}} \text{ defined}\} = (3, \infty)$$

$$\textcircled{2} \frac{x^2-25}{x^2+8x+15} = \frac{(x-5)\cancel{(x+5)}}{(x+3)\cancel{(x+5)}} = \frac{(x-5)}{(x+3)}, x \neq -5$$

$$\textcircled{3} \frac{x^2}{x^2-1} \div \frac{x}{x-1} = \frac{x^2}{x^2-1} \cdot \frac{x-1}{x} = \frac{x^2}{\cancel{(x-1)}(x+1)} \cdot \frac{\cancel{x-1}}{x}$$
$$= \frac{x}{x+1}, x \neq 0, 1$$

$$\textcircled{4} \frac{5}{x+3} + \frac{3}{x^2-9} = \frac{5(x-3)}{x^2-9} + \frac{3}{x^2-9} =$$
$$\frac{5x-12}{x^2-9}$$