

$$\textcircled{2} \quad \lim_{x \rightarrow 2} \left[ \frac{x^3 - 4x^2 + 4x}{x^2 - 4} \right]$$

Sol<sup>n</sup>:

Put  $x=2$  in the expression, limit comes out to be  $\left(\frac{0}{0}\right)$ , so try to remove factors which is causing expression to be  $\left(\frac{0}{0}\right)$

Sol<sup>n</sup>:

$$\lim_{x \rightarrow 2} \frac{2(x^2 - 4x + 4)}{(x+2)(x-2)}$$

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

$$= \lim_{x \rightarrow 2} \frac{x(x-2)}{x+2}$$

$$= \frac{2(2-2)}{2+2}$$

$$= 0$$