Question 2

1) $\lim_{x \to 3^-} \frac{(x+2)(x-4)^4}{(x-3)^3(x-5)^4}$ $\quad 5 \cdot -1^4 = 1$ $\quad = 5$

$= 0$ $\quad \frac{5}{0} = \frac{\text{nonzero}}{\text{zero.}}$

3 $\quad$ 3

V $\quad$ V

0. $\quad$ 16

positive

approaching from the left so negative infinity $\boxed{-\infty}$.

2) $\lim_{x \to 3^+} \frac{(x+2)(x-4)^4}{(x-3)^3(x-5)^4} = \frac{\text{nonzero}}{\text{zero.}}$

positive

approaching zero from the right. $\quad$ + infinity $\boxed{+\infty}$.

3) $\lim_{x \to 3}$ DNE, task 1 and 2 don't agree with their placement.