Problem 1 Find the indicated limits.

\[
L = \lim_{t\to3} \frac{t - 2}{t^2 - 6t + 8}
\]
\[
M = \lim_{t\to2} \frac{t - 2}{t^2 - 6t + 8}
\]

Solution  First, by simple substitution \( t = 3 \) (allowed b/c the denominator does not have limit zero, so the Main Limit Theorem (aka Limit Laws) applies)

\[ L = -1. \]

Second, factor out \( t - 2 \) in the denominator to get

\[
M = \lim_{t\to2} \frac{t - 2}{(t - 2)(t - 4)} = \lim_{t\to2} \frac{1}{t - 4} = -\frac{1}{2}.
\]

(again, substitution in the last step).