1. Find these limits. Use any method but show or explain your work (9 pts).

\[
\lim_{x \to 4} \frac{x - 4}{x^2 - 16} = \frac{1}{8}
\]

\[
\lim_{x \to -1} \frac{x^2 + 2}{2x + 4} = 3/2
\]

\[
\lim_{x \to \infty} \frac{x^2}{2x^2 + 3} = \frac{1}{2}
\]

At \( x = 4 \), the result you found above is a (circle one):

- Point
- Deleted Point
- Asymptote
- Jump

At \( x = -1 \), the result you found above is a (circle one):

- Point
- Deleted Point
- Asymptote
- Jump

As \( x \) approaches infinity, the result you found above is a (circle one):

- Point
- Deleted Point
- Asymptote
- Jump

2. Use the graph of \( y = f(x) \) shown below to answer the questions that follow (9 pts).

\[
\begin{array}{c|c|c}
\text{lim}_{x \to -3} f(x) = & \text{lim}_{x \to 1^+} f(x) = & \text{lim}_{x \to 1} f(x) = \\
\text{lim}_{x \to 3} f(x) = & \text{lim}_{x \to 3^+} f(x) = & \text{lim}_{x \to 3} f(x) = \text{DNE} \\
\text{lim}_{x \to 7} f(x) = & \text{lim}_{x \to 7^+} f(x) = & \text{lim}_{x \to 7} f(x) = 1 \\
\end{array}
\]

List the \( x \)-values for which function \( f \) is discontinuous: 1, 3, 6

Technically, 1 & 6 are not in the domain of \( f \), but we often include such pts of discontinuity for descriptive purposes.