1. This question concerns graphing the rational function \( f(x) = \frac{x(x+3)}{(x-1)(x+4)} \). Make sure to state the answer to each part clearly, use the space below for all parts, but box your answers.

1. (3 pts.) What are the \( x- \) and \( y- \) intercepts on the graph of \( f(x) \)?

2. (3 pts.) What are the vertical and horizontal asymptotes, if any? Remember that asymptotes are lines, so your answer should include equations of lines.

3. (4 pts.) Graph the function \( f(x) \).

2. Extra credit (2pts.). List all the possible rational zeros of the function \( g(x) = 7x^5 - x^4 + x - 3 \).

\[ \pm \left( 3, \frac{3}{7}, 1, \frac{3}{7} \right) \]