Quiz Three

No notes. No calculators.
Simplify your answers. Show your work. Please put a box around YOUR FINAL ANSWER. There are 15 points on this quiz.

For this page, consider the functions \( y = f(x) = 2 + 5x - 3x^2 \) and \( y = g(x) = 5x - 3 \), graphed below.

1 (3 points) Find all values of \( x \) for which \( f(x) - g(x) = 2 \).

2 (3 points) Find an inverse function \( y = f^{-1}(x) \), and specify the domain and range for your function.
For the problems on this page, consider the function

\[ h(x) = \frac{2x - 3}{x + 2}. \]

3 (4 points) Find the zeros and all asymptotes of \( h(x) \).

4 (5 points) Graph the function \( y = h(x) \) on the axes, below. Be sure to number the axes and show (and label) all zeros and asymptotes.