1. (20 points) Solve the equation for $x$: $|5 - \frac{1}{x}| = 2$

2. (20 points) The relationship between Fahrenheit($F$) and Celsius($C$) temperature scales is given by the linear function $F = \frac{9}{5}C + 32$, where the given temperature is in degrees Celsius, and the output is in Fahrenheit.

   (a) What is the slope of the graph and what does it represent (what information does the slope give you)?

   (b) What is the F-intercept and what does it represent?

3. (20 points) For $f(x) = \frac{x}{5} - 7$ and $g(x) = \frac{3x}{2} + 5$, find

   (a) $f(x) + g(x)$

   (b) $(f \circ g)(x)$
4. (20 points) Express the given quantity as a single logarithm (show some intermediate steps). Notice that the value of 20 doesn’t have a log, so you will need to put it in a log:

\[ 20 + 3 \log_3 7(2x - 1) - \frac{1}{2} \log_3 x. \]

2. (20 points) Find the graph of \( f(x) = 3e^{x-2} \) without using the calculator (show the intermediate graphs).