YOUR GRADE IS BASED ON CORRECTNESS, COMPLETENESS, AND CLARITY ON EACH EXERCISE. YOU MAY USE A CALCULATOR, BUT NO NOTES, BOOKS, OR OTHER STUDENTS. GOOD LUCK!

1.) (5 pts.) How did we define the number e in class on Monday?

\[ e \text{ is the number for which,} \]
\[ f(x) = e^x \text{, then } f'(0) = 1 \]

(No other definition, including \( e \approx 2.7 \ldots \), gets credit here.)

2.) (5 pts.) What is the slope of the curve \( f(x) = -2\ln x \) at \( x = 1 \)?

\[ f'(x) = \frac{-2}{x} \]
\[ f'(1) = \frac{-2}{1} = -2 \]

So: the slope of \( f(x) = -2\ln x \), at \( x = 1 \),

is \[-2\]