

1. Sketch a graph of $g(x) = 2^{x-2} - 3$. Show the horizontal asymptote.

2. Solve for x. $1 + e^{4x-3} = 20$

3. Solve for x. $\ln(x - \frac{1}{2}) + \ln 2 = 2 \ln x$

4. Solve for x. $10^{1-x} = 6^x$

5. A 15 gm sample of radioactive iodine decays so that the mass after t days is $m(t) = 15e^{0.087t}$ gm
When will only 5 grams left?

6. Let $P(x) = 2x^3 - 5x^2 - 17x + 20$ and $f(x) = \frac{P(x)}{x^3 - 2x^2}$ Note that $P(1) = 0$.

Sketch the graph of $f(x)$ Find all intercepts and give the equations of all asymptotes, vertical, horizontal or slanted. (Draw the asymptotes as dashed lines.)