

<p>1. Solve for the <i>exact</i> value of x.</p> $25^x = \frac{1}{125^{x+1}}$	<p>2. Solve for x. Round answer to 3 decimal places.</p> $20^{3x+1} - 5 = 35$
<p>3. Solve for x. Round decimal answer to 3 decimal places.</p> $5e^{-x+4} = 22$	<p>4. Evaluate $\log_2 31$. Round answer to 3 decimal places.</p>
<p>5. Solve for x. Give answer in terms of natural logs.</p> $e^{2x} - e^x - 6 = 0$	<p>6. Solve for x. Round decimal answer to 3 decimal places. (Hint: let $y = 3^x$)</p> $3^{2x} - 7 \cdot 3^x + 12 = 0$

Answers: 1. $\frac{-3}{5}$ 2. .077 3. 2.518 4. 4.954 5. $\ln 3$ 6. 1, 1.262

Graph. Show asymptotes and specify domain and range. For # 7-10, specify as growth, decay, or neither. Plot at least 3 points, including x-intercept or y-intercept.

7. $y = -3(2)^x + 2$	8. $y = 2 \cdot \left(\frac{1}{3}\right)^{x+1} - 2$
9. $y = 2e^{-x} + 3$	10. $y = \frac{1}{2}e^{x-1} - 1$
11. $y = \log_{\sqrt{2}}(x+3)$	12. $y = \ln x - 2$