

1. Rationalize the denominator of the following expression and **simplify** your result assuming that  $x \neq 2$ .

$$\frac{x-2}{\sqrt{2x+5}-3} \stackrel{?}{=}$$

2. Find the values of  $x$  at which the following two curves intersect:

$$y = \frac{2}{x};$$

$$y = 3 - x$$

**3.** Solve for  $x$  in the following equations:

**3a.**  $\ln(x - 1) = 2 + \ln(2x - 3)$

**3b.**  $3e^{x+1} = e^{4x+2}$