$$\begin{array}{r|l} -2x^3+2x^2 & 2x^2(x-1) \\ \hline 2x^2+2x & 2x(x-1) \\ -2x^2+2x & 4(x-1) \\ \hline 4x-1 & \\ -4x+4 & \\ \hline 3 & \end{array}$$

$$2x^3+2x-1 = (2x^2+2x+4)(x-1)+3$$

$$\Rightarrow \quad \frac{2x^3+2x-1}{x-1} = 2x^2+2x+4+\frac{3}{x-1} \quad //$$

10. $(1.034)^t = 2$

$t \ln(1.034) = \ln 2$

$t = \dfrac{\ln 2}{\ln 1.034} = 20.73.$

11. (a) $\ln(x^2-4x+5)=0$

$e(\ln(x^2-4x+5)) = e^0$

$x^2-4x+5 = 1$

$x^2-4x+4=0$

$x = \dfrac{4 \pm \sqrt{16-16}}{2}$

$\boxed{x=2}$

(b) $\dfrac{x\ln(x+3)}{(x^2+1)} = 0$

$x = 0$

OR $\ln(x+3)=0 \Rightarrow x=-2$

(so that $\ln(1)=0$)