# Do not use a calculator on any of these!

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| 1)  Write in expanded form: $\ln \dfrac{3x^2}{2e}$. |
| 2)  Find the value of $k$ such that the remainder when $P(x) = x^4 + 3x^2 - kx + 1$ is divided by $(x+2)$, the remainder is $-2$. |
| 3)  Solve: $\ln x + \ln(x+3) = \ln 10$. |
| 4)  Solve $16x^{-2/3} = 9$. |
| 5)  Solve $x^4 + 8x^3 + 8x - 1 = 0$ given that $i$ is a root. |
| 6)  Solve: $\log(x+3) - 1 = \log(x-1)$ |