Class 1: Gamma functions - definition, Graph and properties

1. Express $\int_0^\infty \frac{x^c}{c^x} dx$ in terms of gamma function.   Ans: $\frac{\Gamma(c+1)}{(log\ c)^{c+1}}$

2. Evaluate: $\int_0^\infty x^7 e^{-x} dx$;   Ans:5040

3. Evaluate: $\int_0^\infty x^3 e^{-4x} dx$;   Ans:3/128

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