1. Evaluate $\int \frac{e^x \, \mathrm{d}x}{e^{2x} - 1}$

Answer: _____

2. Evaluate $\int x \sec x \tan x \, \mathrm{d}x$

Answer: _____

3. True or False?

a) The polynomial $2x^4 - 3x^3 - 19x^2 - 6x + 8$ is divisible by $(x + 1)$ (being divisible means there is 0 remainder after division).

Answer: _____

b) The following is a correct first step for breaking up a fraction:

$$\frac{1}{(x-1)^2(x^2+1)(x^2-2x+12)} = \frac{A}{x-1} + \frac{B}{(x-1)^2} + \frac{C}{x^2+1} + \frac{Dx+E}{x^2-2x+12}.$$

Answer: _____