6. [11 points] For each equation below, solve exactly for the specified variable. Show your work step-by-step and write your answers in exact form in the answer blanks provided.

a. [4 points] \( 12.1e^{0.15p} = 0.78(0.9)^p \)

Answer: \( p = \)____________________

b. [4 points] \( \frac{\ln(z^7) - \ln(z^4)}{\ln(50)} = 5 \)

Answer: \( z = \)____________________

c. [3 points] \( \ln(10e^{-5n}) = 3n + 2 \)

Answer: \( n = \)____________________