1. Find

$$\lim_{n\to\infty}\left(\frac{1}{2}+\frac{1}{n}\right)^n$$

(a) What type of question is this? What sub-type (if any)?

(b) Can you draw a picture to help you solve this problem?

(c) Are there any formulas to help you? If so, what are they?

(d) What steps would you take to solve this question? What about a general question of this sub-type?

(e) Did you ever *reduce* the original question to a question from a different sub-type? If so, what was it?