2. [11 points] The following parts are unrelated.
   
a. [3 points] Which of the following limits are equal to 0? Circle all correct answers.
   
   i. \( \lim_{x \to \infty} \frac{3x^2 - x + 5}{1 - x^2} \)
   
   ii. \( \lim_{x \to \infty} \frac{x^3}{1 - x^4} \)

   iii. \( \lim_{x \to \infty} \frac{x^2}{e^{2x}} \)

   iv. \( \lim_{x \to -\infty} \frac{x^2}{e^{2x}} \)

   v. \( \lim_{h \to 0} \frac{\sin(h) - \sin(0)}{h} \)

   vi. \( \lim_{h \to 0} \frac{\cos(h) - \cos(0)}{h} \)

   vii. NONE OF THESE

b. [2 points] If \( k(x) \) is an odd function that is differentiable on \((-\infty, \infty)\), which of the following must be true? Circle all correct answers.

   i. \( k'(x) \) is an odd function

   ii. \( k(0) = 0 \)

   iii. \( \int_{-2}^{2} k(x) \, dx = 0 \)

   iv. \( \int_{-3}^{1} k(x) \, dx = \int_{-1}^{3} k(x) \, dx \)

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   v. \( \int_{-3}^{1} k(x) \, dx = \int_{-1}^{3} k(x) \, dx \)

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