Practice – 1

Once you feel confident with limits as x approaches positive or negative infinity, complete problems 1 to 4. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Evaluate $\lim\limits_{x \to \pm\infty} \dfrac{x^2 - 4}{x^3 - 16}$.

2. Find $\lim\limits_{x \to \pm\infty} \dfrac{1 - x - 2x^2}{6x^2 - 7}$.

3. Evaluate $\lim\limits_{x \to \pm\infty} \dfrac{3x^2 + x}{1 - 2x}$.

4. Evaluate the following limits using the shortcuts discussed in the lesson.

   a. $\lim\limits_{x \to \pm\infty} \dfrac{x^2 - 4}{x^3 - 16}$

   b. $\lim\limits_{x \to \pm\infty} \dfrac{1 - x - 2x^2}{6x^2 - 7}$

   c. $\lim\limits_{x \to \pm\infty} \dfrac{3x^2 + x}{1 - 2x}$