



Basic Limits

Student Activity

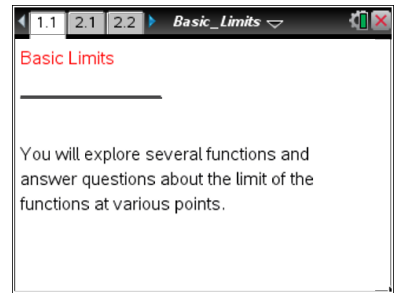


Name _____

Class _____

Open the TI-Nspire document *Basic_Limits.tns*.

How can you find one-sided and two-sided limits graphically? You will examine each graph presented in the TI-Nspire document and answer the questions on the following pages. Grab and move the open circle on the x -axis to help answer the questions. Once you have determined your answer, you may record your results on the worksheet or the TI-Nspire document depending upon your teacher's instructions.



Move to page 2.1.

1. What is the limit of $f(x)$ as $x \rightarrow 1^+$?

2. What is the limit of $f(x)$ as $x \rightarrow 1^-$?

Press **ctrl** **▶** and **ctrl** **◀** to navigate through the lesson.

Move to page 3.1.

3. What is the limit of $f(x)$ as $x \rightarrow -2^+$?

4. What is the limit of $f(x)$ as $x \rightarrow -2^-$?

Move to page 4.1.

5. What is the limit of $f(x)$ as $x \rightarrow 3^+$?

6. What is the limit of $f(x)$ as $x \rightarrow 3^-$?



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7. What is the limit of $f(x)$ as $x \rightarrow 1^+$?

8. What is the limit of $f(x)$ as $x \rightarrow 1^-$?

Move to page 6.1.

9. What is the limit of $f(x)$ as $x \rightarrow 0^-$?

10. What is the limit of $g(x)$ as $x \rightarrow 0^+$?

Move to page 6.3.

Let $h(x) = g(x) + 1$.

11. What is the limit of $h(x)$ as $x \rightarrow 0^+$?

Move to page 6.4.

12. Define a function $j(x)$ in terms of $f(x)$ that makes the graph continuous.

Move to page 7.1.

13. Define a function $j(x)$ in terms of $g(x)$ that makes the graph continuous.

Let $h(x) = f(x) - c$.

14. What value of c makes the limit of $h(x)$ as $x \rightarrow 1^- = 2$?