Exercise 1 *Choose the correct statement regarding the form of the limit.*

$$\lim_{x\to 0} \frac{e^x}{\sin x}$$

Select All Correct Answers:

(a) *The limit is of determinate form.* ✓

(b) *The limit is of indeterminate form.*

(c) *The limit is of the form* $\frac{0}{0}$.

(d) *The limit is of the form* $\frac{\#}{0}$. ✓

Exercise 1.1 *Evaluate the limit. Possible answers include a number,* $+\infty$, $-\infty$ *and* DNE.

$$\lim_{x\to 0^+} \frac{e^x}{\sin x} = \boxed{+\infty}$$

Justify your answer by choosing all correct statements.

Select All Correct Answers:

(a) *The numerator is negative and the denominator is positive and approaching zero.*

(b) *The numerator is positive and the denominator is positive and approaching zero.* ✓

(c) *The numerator is positive and the denominator is negative and approaching zero.*

(d) *The numerator is negative and the denominator is negative and approaching zero.*

Exercise 1.1.1 *Evaluate the limit. Possible answers include a number,* $+\infty$, $-\infty$ *and* DNE.

$$\lim_{x\to 0^-} \frac{e^x}{\sin x} = \boxed{-\infty}$$

Justify your answer by choosing all correct statements.

Select All Correct Answers:

(a) *The numerator is negative and the denominator is positive and approaching zero.*

(b) *The numerator is positive and the denominator is positive and approaching zero.*

(c) *The numerator is positive and the denominator is negative and approaching zero.* ✓

(d) *The numerator is negative and the denominator is negative and approaching zero.*

Exercise 1.1.1.1 *Evaluate the limit. Possible answers include a number,* $+\infty$, $-\infty$ *and* DNE.

$$\lim_{x \to 0} \frac{e^x}{\sin x} = \boxed{DNE}$$

Justify your answer by choosing the correct statement.

Select All Correct Answers:

(a) *The limit from the left is not equal to the limit from the right.* ✓

(b) *The limit from the left is equal to the limit from the right.*
