Exercise 1 *Let* $g(x) = \cos(x-4)$, *and* $h(x) = (x-4)^2$.

(a) *Evaluate the limit.*

$$\lim_{x\to 4} g(x) = \boxed{1}$$

(b) *Choose all correct statements regarding the form of the limit.*

$$\lim_{x\to 4} \frac{\cos(x-4)}{(x-4)^2}$$

Choose all correct statements.

Select All Correct Answers:

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

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

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

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

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

$$\lim_{x\to 4} \frac{\cos(x-4)}{(x-4)^2} = \boxed{+\infty}$$

Justify your answer by choosing the correct statement.

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.*
