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## Question 1 **(1 pts)**

If $c$ is a constant and the limit $\lim_{x\to a} f(x)$ exists, then $\lim_{x\to a}[cf(x)]$ is equivalent to:

A. $\lim_{x\to a}(cf(x))$

B. $c$

C. $c\lim_{x\to a} f(x)$

D. $\lim_{x\to a}(f(x)c)$

## Question 2 **(1 pts)**

If $\lim_{x\to a}\frac{f(x)}{g(x)} = \frac{\lim_{x\to a} f(x)}{\lim_{x\to a} g(x)}$, then:

A. $g(x) = 0$

B. $\lim_{x\to a} g(x) \neq 0$

C. $g(x) \neq 0$

D. $\lim_{x\to a} g(x) = 0$

## Question 3 **(1 pts)**

$\lim_{x\to a}[f(x)]^n$ is equivalent to:

A. $n\lim_{x\to a} f(x)$

B. $\lim_{x\to a}(nf(x))$

C. $n$

D. $[\lim_{x\to a} f(x)]^n$

## Question 4 **(1 pts)**

The substitution property says: If $f$ is a polynomial or a rational function and $a$ is in the domain of $f$, then:

A. $\lim_{x\to a} f(x) = a$

B. $\lim_{x\to a} f(a) = f(x)$

C. $\lim_{x\to a} f(x) = f(a)$

D. The limit does not exist.

## Question 5 (1 pts)

The squeeze theorem says: If a function $g(x)$ is squeezed between two functions, $f(x)$ and $g(x)$, near a, and if $f$ and $h$ have the same limit, $L$, at $a$, then:

A. $g$ is forced to have the same limit, $L$, at $a$.

B. f(x) = g(x) = h(x)

C. $\lim_{x \to a} g(x) = f(x)$

D. $\lim_{x \to a} g(x) = a$

## Question 6 (1 pts)

To show that a function is continuous at a number $a$, you need to verify:

A. The function is defined at $x = a$.

B. The limit of the function exists at $x = a$.

C. The limit of the function at $x = a$ equals the value of the function at $x = a$.

D. All of the above.

## Question 7 (1 pts)

A function is discontinuous at a number $a$ if:

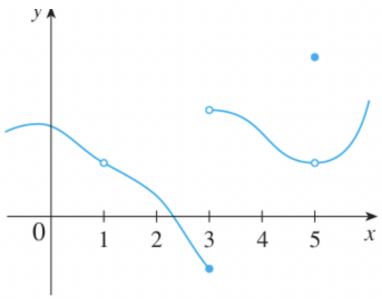
A. At least one of the criteria from question 6 is not satisfied.

B. $f(x) = a$

C. $L = f(a)$

D. $\lim_{x \to a} f(x) = L$

## Question 8 (1 pts)




At which values of $x$ is the function $f$ (graph shown above) discontinuous?

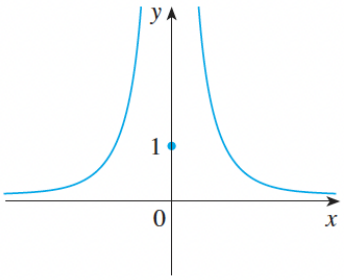
A. When $x$ goes to $\infty$

B. $x = 1$, $x = 3$, and $x = 5$

C. The function is continuous.

D. $x = 1$

## Question 9 **(1 pts)**




The graph above represents a function that is:

A. Jump discontinuous.

B. Infinitely discontinuous.

C. Removably discontinuous.

D. Continuous since $f(0) = 1$.

## Question 10 **(1 pts)**

If $f$ is continuous at $b$ and $\lim_{x \to a} g(x) = b$, then:

A. $f(x) = b$

B. $g(x) = f(b)$

C. $\lim_{x \to a} f(g(x)) = f(\lim_{x \to a} g(x)) = f(b)$

D. $f(b) = g(b)$