

Answers for class prep quiz on sections 2.3 and 2.5, Stewart's Calculus (8th ed.)

1. **Answer:** (d). Common errors include: confusing $g(7 + h)$ with $g(7)$ (this may lead to answer (a)), confusing $(7 + h)^2$ with $7^2 + h^2$ (this may lead to answer (b)), and forgetting to distribute the minus sign in the expression $-(3(7^2) - 5)$ (this, and many other algebra errors, may lead to answer (c)).
2. **Answer:** (b). The conclusion of the Squeeze Theorem is precisely (b). If you incorrectly answered (c), remember that the value of a function at -1 is irrelevant to the limit of that function as x approaches -1 .
3. **Answer:** (d). (d) is precisely the definition of what it means for $f(x)$ to be continuous at $x = a$.
4. **Answer:** (d). $f(x)$ is continuous at $x = 2$ because the limit on both sides of $x = 2$ is the same and equal to $f(2) = 8$. $f(x)$ is not continuous at $x = 5$ because as $x \rightarrow 5$, the left-hand limit of $f(x)$ is 17 and the right-hand limit is 25.