AP Calculus AB Test Booklet

**Quiz 1.7** Name

- 1. If f is the function defined by  $f(x) = \frac{x^2-1}{\sqrt{x}-1}$ , then  $\lim_{x\to 1} f(x)$  is

- nonexistent
- 2. If g is the function defined by  $g(x) = \frac{2\cos^2 x 1}{\cos x \sin x}$ , then  $\lim_{x \to \frac{\pi}{4}} g(x)$  is equivalent to which of the following?
- $igotimes_{x o rac{\pi}{4}} \left(2\cos^2 x 1
  ight)$
- $egin{array}{c} \operatorname{B} & \lim\limits_{x o rac{\pi}{4}} \left(\cos x + \sin x
  ight) \end{array}$
- $egin{array}{c} \lim\limits_{x orac{\pi}{4}}\left(\cos x-\sin x
  ight) \end{array}$
- 3.  $f(x) = \begin{cases} \frac{(x-1)^2(x+1)}{|x-1|} & \text{for } x \neq 1 \\ 2 & \text{for } x = 1 \end{cases}$ If f is the function defined above, then  $\lim_{x \to 1} f(x)$  is



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**D** nonexistent