Which derivative rule best describes the overall structure of this problem?

$$5x^3\cos(2x)$$

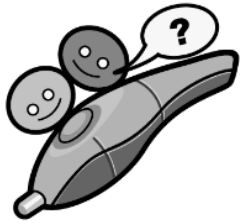
A. Chain rule

B. Product Rule

C. Quotient Rule

D. Power Rule

E. Trig Derivative



Sort the order of the steps needed to find this derivative. $5x^3\cos(2x)$

A Chain rule

B Product Rule

C Trig Derivative

D Power Rule

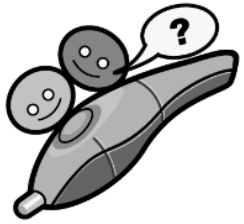
What is the derivative of $5x^3\cos(2x)$

(A) $-15x^2\sin(2x)$

(B) $-30x^2\sin(2x)$

(C) $15x^2\cos(2x) - 10x^3\sin(2x)$

(D) $15x^2\cos(2x) + 10x^3\sin(2x)$



What is the derivative of $5\sec\left(4x^2\right)$

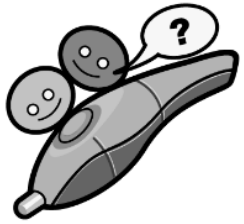
A. 5sec(8x)tan(8x)

B. 5sec(4x^2)tan(4x^2)

C. $20x^2\sec\left(4x^2\right)\tan\left(4x^2\right)$

D. $40x\sec\left(4x^2\right)\tan\left(4x^2\right)$

E. Not Here



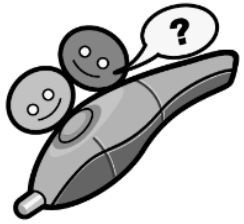
What is the first step in finding the derivative of $\cos^2(5x^2)$

A rewrite as $(\cos(5x^2))^2$

B use the fact that cos' derivative is -sin

C Use the chain rule

D I don't know



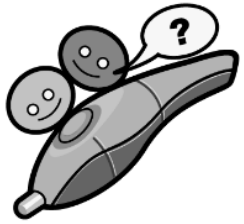
Which choice shows the correct order of steps to find $\cos^2(5x^2)$

A Chain rule, chain rule

B Power rule, chain rule

C Power rule, chain rule, chain rule

D Trig derivative



Let's say that for some function f(x),f'(x) = $\frac{x+5}{(x-1)^2}$

Where does f(x) have a horizontal tangent?

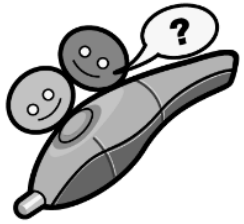
A x=1

B x=-5

C x=5

D x=0

E f(x) does not have a horizontal tangent



Which of the following is NOT required for a function to be differentiable at a point?

A f(x) is continuous at that point

B f(x) has a unique tangent line at that point

C the unique tangent line has a defined slope

D None of these

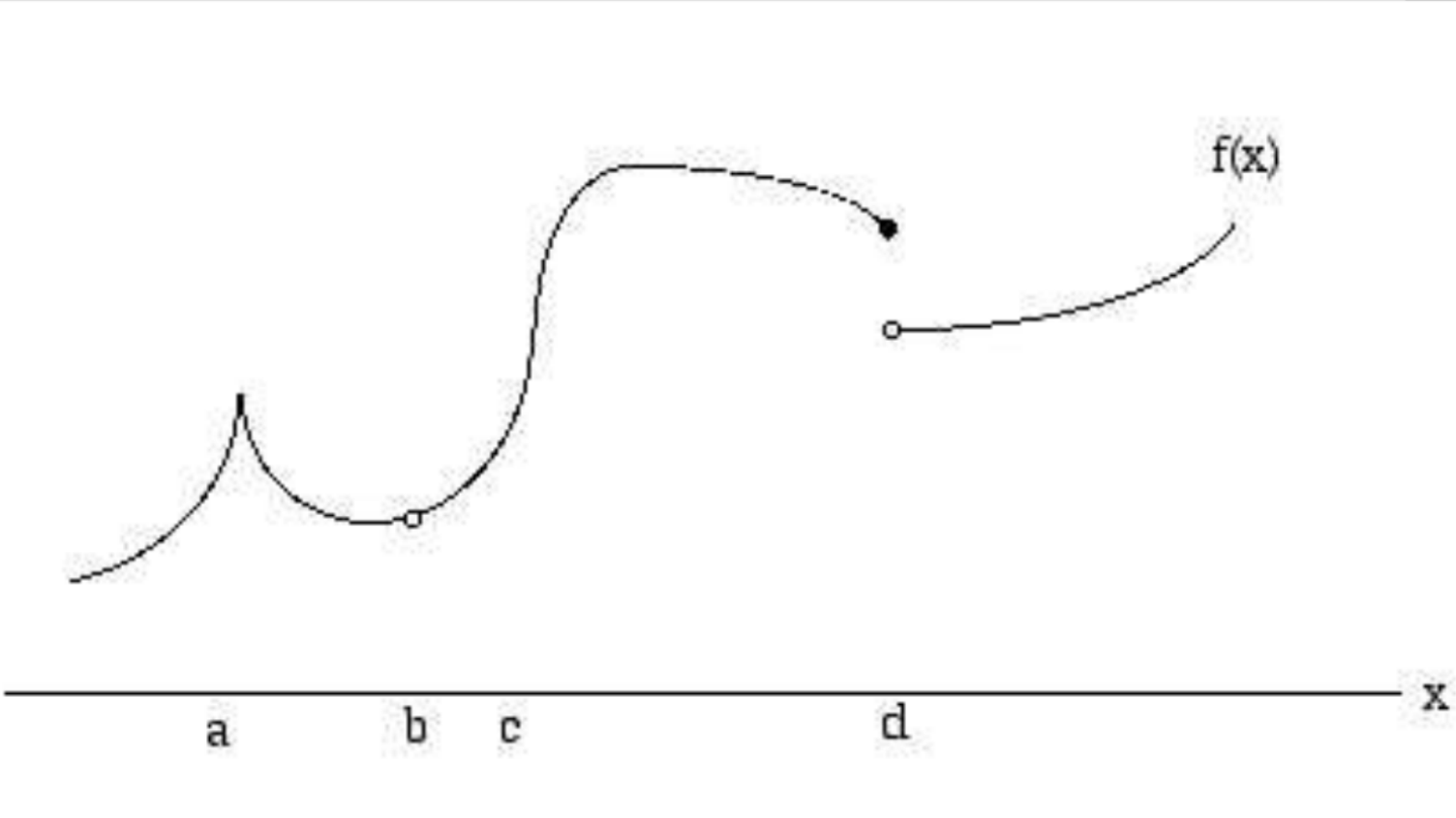
Which of these points fails differentiability because of having a vertical tangent line?

A A

B B

C C

D D



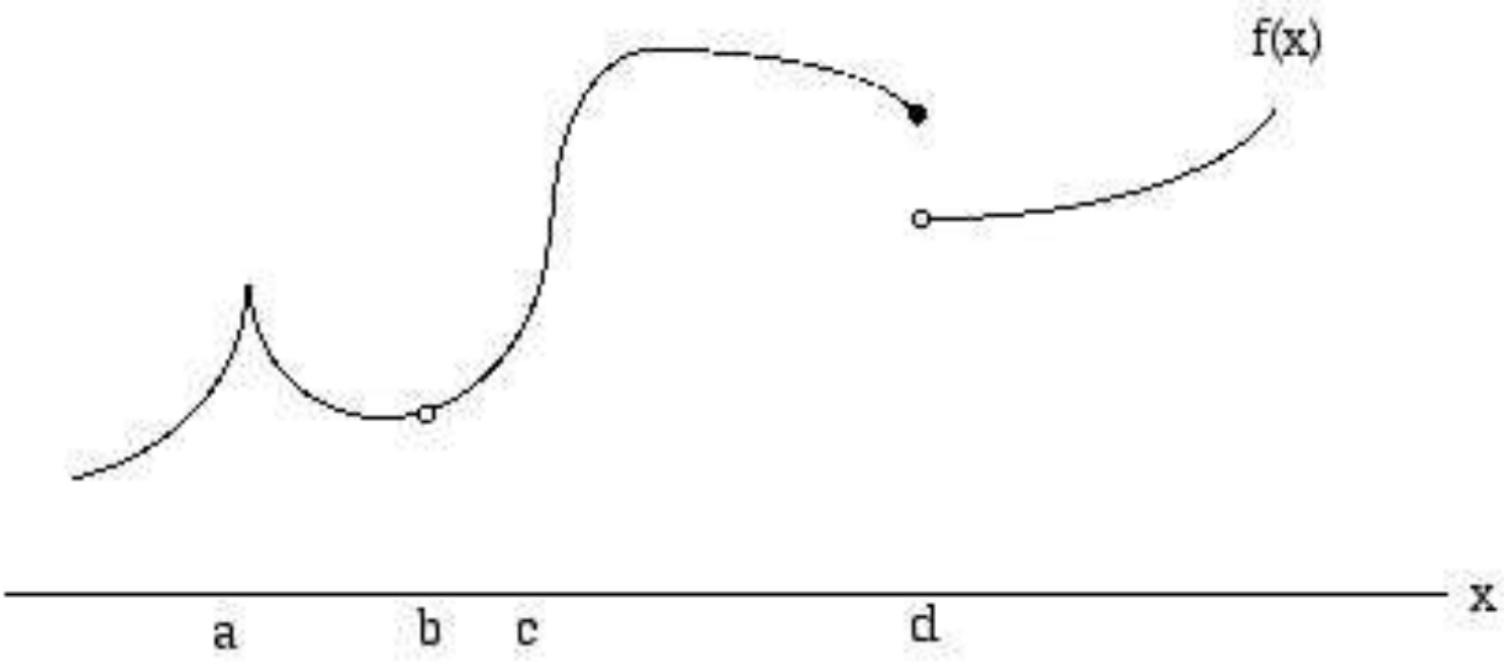
Which of these points is not differentiable because f has no unique tangent line?

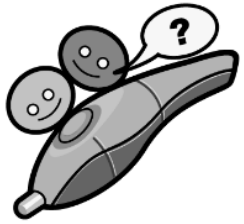
A A

B B

C C

D D



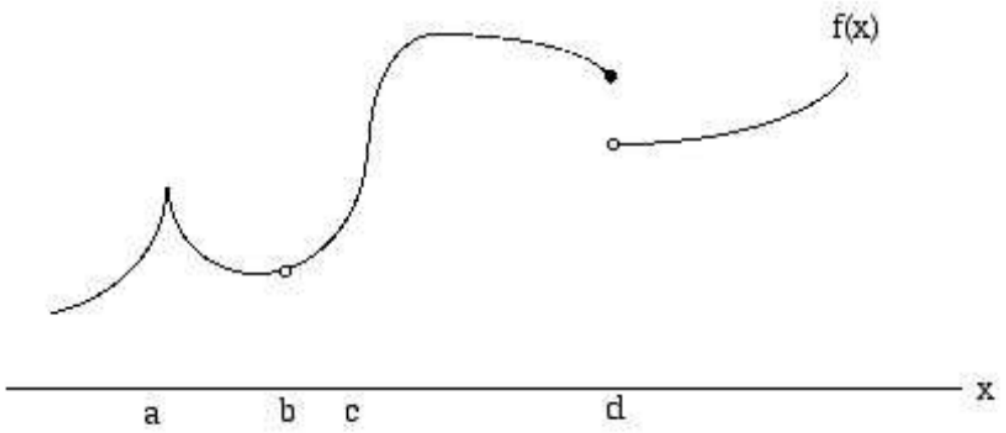


Why is the function not differentiable at b?

A No unique tangent line

B Undefined slope

C Not continuous



D The function actually IS differentiable at b