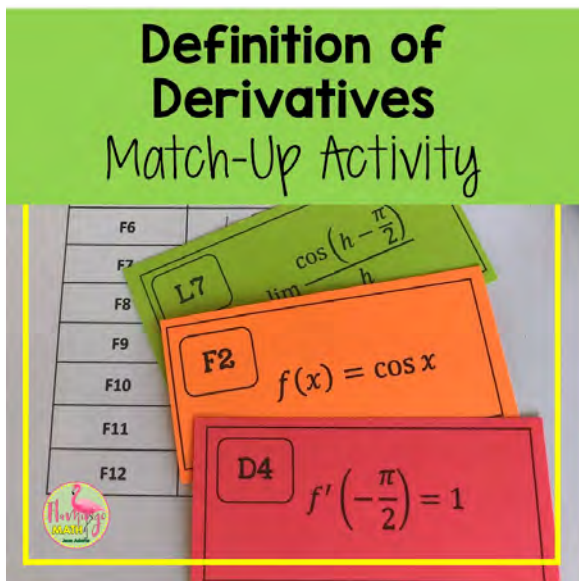




Definition of Derivatives Match-Up Activity Task Cards

Your AP Calculus students will be actively engaged in this Sort & Match Task Cards Activity as they review concepts for the limit definition of the derivative.



About the Activity:

This resource is a sort and match task card activity with 36 cards meant recognition of the limit definition of the derivative. There are 12 limit cards that have a matching function equation card, and a derivative card to create a unique set. There is also a student recording sheet and an answer key.

Teaching Suggestions:

- Use the set as a group activity for 2-4 per group .
- Use the cards as a review activity prior to assessing students
- Use the card set in a math workshop rotation station.
- Use the function cards only for students to apply the limit definition of the derivative to calculate the general derivative for the function.

Task Cards

L1

$$\lim_{h \rightarrow 0} \frac{(2+h)^3 - 8}{h}$$

L2

$$\lim_{h \rightarrow 0} \frac{\sin(h - \pi)}{h}$$

L3

$$\lim_{h \rightarrow 0} \frac{e^{\cos(\pi+h)} - e^{-1}}{h}$$

L4

$$\lim_{h \rightarrow 0} \frac{1}{h} \ln\left(\frac{6+h}{6}\right)$$

L5

$$\lim_{h \rightarrow 0} \frac{e^{h+1} - e}{h}$$

L6

$$\lim_{h \rightarrow 0} \frac{e^{h+1} - e}{h}$$

L9

$$\lim_{h \rightarrow 0} \left(\frac{1}{3+h} - \frac{1}{3} \right) \cdot \frac{5-2}{h}$$

L11

$$\lim_{h \rightarrow 0} \frac{(5+h)^4 - 81}{h}$$

L12

$$\lim_{h \rightarrow 0} \frac{\tan 2(2+h) - \tan(4)}{h}$$

F1

$$f(x) = x^4$$

F2

$$f(x) = x$$

F5

$$f(x) = \sqrt[3]{x}$$

F6

$$f(x) = \sqrt{x}$$

F7

$$f(x) = \ln x$$

F8

$$f(x) = e^x$$

F9

$$f(x) = \tan x$$

F10

$$f(x) = x^3$$

F11

$$f(x) = e^{\cos x}$$

F12

$$f(x) = \sqrt{x}$$

Definition of Derivatives Match Up

Names: _____

FUNCTION	LIMIT	DERIVATIVE
F1		
F2		
F3		
F4		
F5		
F6		
F7		
F8		
F9		
F10		
F11		
F12		

D1

$$f'(4) = \frac{1}{4}$$

D2

$$f'(1)$$

D3

$$f'(2)$$

D4

$$f'(\pi)$$

L

$$f'(2)$$

D6

$$f'(3)$$

D7

$$f'(6)$$

D8

$$f'(3) = -\frac{1}{9}$$

D9

$$f'(6) = \frac{1}{6}$$

D10

$$f'(-\pi) = 1$$

D11

$$f'(8) = \frac{1}{12}$$

D12

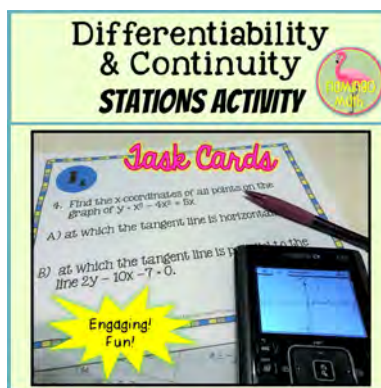
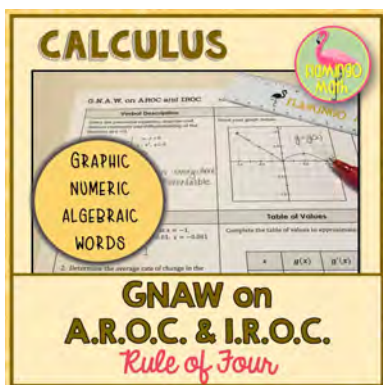
$$f'(-2) = -12$$



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