

Calculus 6 5 Average Value

Lesson 314 | Calculus AB | Average value of a function

<https://www.youtube.com/watch?v=g3S8i2IWkG8>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01 Find the average value of $f(x)=9x^2+10$ on $[0,2]$.

02 Find the average value of $f(x)=12x^2+7$ on $[0,5]$.

03 Find the average value of $f(x)=11x^2+7$ on $[0,4]$.

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04 Find the average value of $f(x)=5x^2+8$ on $[0,5]$.

05 Find the average value of $f(x)=4x^2+9$ on $[0,2]$.

06 Find the average value of $f(x)=4x^2+13$ on $[0,5]$.

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01 Find the average value of $f(x)=9x^2+10$ on $[0,2]$.

$$f_{\text{avg}}=(1/2)\int[0,2](9x^2+10)dx=(1/2)[9x^3/3+10x]_0^2=22.$$

02 Find the average value of $f(x)=12x^2+7$ on $[0,5]$.

$$f_{\text{avg}}=(1/5)\int[0,5](12x^2+7)dx=(1/5)[12x^3/3+7x]_0^5=107.$$

03 Find the average value of $f(x)=11x^2+7$ on $[0,4]$.

$$f_{\text{avg}}=(1/4)\int[0,4](11x^2+7)dx=(1/4)[11x^3/3+7x]_0^4=197/3.$$

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04

Find the average value of $f(x)=5x^2+8$ on $[0,5]$.

$$f_{\text{avg}}=(1/5)\int[0,5](5x^2+8)dx=(1/5)[5x^3/3+8x]_0^5=149/3.$$

05

Find the average value of $f(x)=4x^2+9$ on $[0,2]$.

$$f_{\text{avg}}=(1/2)\int[0,2](4x^2+9)dx=(1/2)[4x^3/3+9x]_0^2=43/3.$$

06

Find the average value of $f(x)=4x^2+13$ on $[0,5]$.

$$f_{\text{avg}}=(1/5)\int[0,5](4x^2+13)dx=(1/5)[4x^3/3+13x]_0^5=139/3.$$