Calculus ex04   **Apr. 24 2019**

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Question [diff09]   Find the derivative $f'(x)$ of $f(x) = \left(-3\,x^2 - 5\right)^8$.

● $-48\,x\left(-3\,x^2 - 5\right)^7$ ○ $-24\,x\left(-3\,x^2 - 5\right)^7$ ○ $24\,x\left(-3\,x^2 - 5\right)^7$

○ $48\,x\left(-3\,x^2 - 5\right)^7$ ○ $8\left(-3\,x^2 - 5\right)^7$

Question [diff10]   Find the derivative $f'(x)$ of $f(x) = \sqrt{x^2 - 1}$.

● $\frac{x}{\sqrt{x^2-1}}$ ○ $\frac{2\,x}{\sqrt{x^2-1}}$ ○ $-\frac{2\,x}{\sqrt{x^2-1}}$ ○ $\sqrt{2x}$ ○ 1

Question [diff11]   Find the derivative $f'(x)$ of $f(x) = \sin\left(9\,x - 6\right)$.

● $9\,\cos\left(9\,x - 6\right)$ ○ $-9\,\cos\left(9\,x - 6\right)$ ○ $18\,\cos\left(9\,x - 6\right)$

○ $-18\,\cos\left(9\,x - 6\right)$ ○ $\cos\left(9\,x - 6\right)$

Question [diff12]   Find the derivative $f'(x)$ of $f(x) = \tan\left(5\,x + 4\right)$.

● $\frac{5}{\cos^2\left(5\,x+4\right)}$ ○ $-\frac{5}{\cos^2\left(5\,x+4\right)}$ ○ $\frac{10}{\cos^2\left(5\,x+4\right)}$ ○ $-\frac{10}{\cos^2\left(5\,x+4\right)}$

○ $\frac{1}{\cos^2\left(5\,x+4\right)}$

Question [diff13]   Find the derivative $f'(x)$ of $f(x) = \cos\left(8\,x\right)\sin\left(2\,x\right)$.

● $2\,\cos\left(8\,x\right)\cos\left(2\,x\right) - 8\,\sin\left(8\,x\right)\sin\left(2\,x\right)$

○ $-16\,\cos\left(2\,x\right)\sin\left(8\,x\right)$

○ $2\,\cos\left(8\,x\right)\cos\left(2\,x\right) + 8\,\sin\left(8\,x\right)\sin\left(2\,x\right)$

○ $-2\,\cos\left(8\,x\right)\cos\left(2\,x\right) - 8\,\sin\left(8\,x\right)\sin\left(2\,x\right)$

○ $16\,\cos\left(2\,x\right)\sin\left(8\,x\right)$

Question [diff14]   Find the derivative $f'(x)$ of $f(x) = e^{(2\,x+9)}$.

● $2\,e^{(2\,x+9)}$ ○ $(2\,x + 9)e^{(2\,x+8)}$ ○ $(2\,x + 9)e^{(2\,x+9)}$ ○ $e^{(2\,x+9)}$

Question [diff15]   Find the derivative $f'(x)$ of $f(x) = \log\left(4\,x + 7\right)$.

● $\frac{4}{4\,x+7}$ ○ $(4\,x + 7)\log\left(4\,x + 6\right)$ ○ $\frac{1}{4\,x+7}$ ○ $\log\left(4\,x + 7\right)$