Answer on Question #82962 – Math – Calculus

Question

Differentiate y = sin 2x + 3 cos 5x

Solution

$$\frac{dy}{dx} = \frac{d}{dx}(\sin(2x) + 3\cos(5x)) = \frac{d}{dx}(\sin(2x)) + 3\frac{d}{dx}(\cos(5x))$$
$$= \cos(2x)\frac{d}{dx}(2x) - 3\sin(5x)\frac{d}{dx}(5x) = 2\cos(2x) - 15\sin(5x)$$

Answer: $\frac{dy}{dx} = 2\cos(2x) - 15\sin(5x)$.