

Solve:

1) Given $u(x) = 2x^4e^x$.
What is $\frac{d^2u}{dx^2}$?

2) Given $h(x) = -x^4 + 2x^3 - 4x^2$. What is $h''(1)$?

3) Given $q(x) = -5x^3 - x^2 + 3x + 5$. What is $q''(2)$?

4) Given $k(x) = 4x^3 - 4x - 5$.
What is $\frac{d^2k}{dx^2}$?

5) What is the double derivative of
 $v(x) = -5x^2 \sin x$?

6) What is the double derivative of
 $c(x) = x^5 \cos x$?

7) Find the equation of the tangent line to the
graph of $u(x) = x + 4$ at $x = 2$.

8) Find the equation of the tangent line to the
graph of $b(x) = -3x + 3$ at $x = -1$.

9) Find the equation of the tangent line to the
graph of $r(x) = -4x^2 - 3x + 4$ at $x = 0$.

10) Find the equation of the tangent line to the
graph of $q(x) = 4x^4 - 4x^3 + 4x^2 - 2x + 2$ at
 $x = -2$.

11) Find the equation of the tangent line to the graph of $d(x) = -3x^4 - 5x^3 - 5x^2 + 3x + 5$ at $x = 2$.

12) Find the equation of the tangent line to the graph of $r(x) = -4x + 3$ at $x = -1$.