$\rm BECA$ / Huson / Unit 12: Integral Calculus 3 May 2023

Name:

12.2 Re-Quiz: Tangent and normal lines to a function

Use your own notebook, but no calculators or computers

Find the derivative of each polynomial function

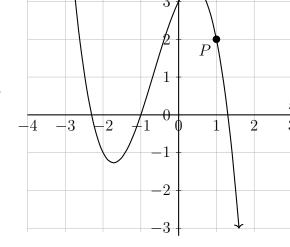
1.
$$f(x) = x^4 + 5x^2$$

2.
$$g(x) = 2x^3 + 7x^2 - x - 11$$

Evaluate the function and its derivative for a given value of x

- 3. Given $f(x) = 4x^2 + 2x$
 - (a) Find f(-1)
 - (b) Find f'(x)
 - (c) Find f'(-1)

- 4. The graph shows the polynomial function $y = -x^3 2x^2 + 2x + 3$. Its derivative is $\frac{dy}{dx} = -3x^2 4x + 2.$
 - (a) Write down the coordinates of P.
 - (b) Find the slope of the tangent at P.
 - (c) Write down the equation of the tangent line through P.



5**↑**^y

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- (d) Draw the tangent line on the graph accurately with a straight edge.
- 5. The function $y = x^2 3x + 2$ is graphed on the grid below. Find its derivative and the equations of the tangent and normal lines through point (3, 2). Draw the lines.

