Differentiating Multiple Terms

Example

Differentiate $y=x^{2}+4x+3$

Questions

1. $y=2x^{2}-3x     $ 2. $y=4-9x^{3}$

3. $y=5x+1     $ 4. $y=ax              $(a is a constant)

5. $y=6x-3+px^{2}$ (p is a constant)

Harder Example

Let $f\left(x\right)=4x^{2}-8x+3$

1. Find the gradient of $y=f\left(x\right)$ at the point $\left(\frac{1}{2},0\right)$
2. Find the coordinates of the point on the graph of $y=f\left(x\right)$ where the gradient is 8.
3. Find the gradient of $y=f\left(x\right)$ at the points where the curve meets the line $y=4x-5$.

Test Your Understanding

Let $f\left(x\right)=x^{2}-4x+2$

1. Find the gradient of $y=f\left(x\right)$ at the point $\left(1,-1\right)$
2. Find the coordinates of the point on the graph of $y=f\left(x\right)$ where the gradient is 5.
3. Find the gradient of $y=f\left(x\right)$ at the points where the curve meets the line $y=2-x$.

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