Name:

Level 2 Further Maths

Second Derivative $\frac{d^2y}{dx^2}$

Corbettmaths

Ensure you have: Pencil or pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

www.corbettmaths.com/more/further-maths/

1. $y = x^3 - 2x^2$

Work out $\frac{d^2y}{dx^2}$

.....

(2)

---

2. $y = x^4 + 5x$

Work out $\frac{d^2y}{dx^2}$

.....

(2)

3. $y = x^4 + 3x^3 - 6x^2 + x$

Work out the value of $\frac{d^2y}{dx^2}$ when $x = 1$

.....

(3)

---

4. $y = 4x^3 - 2x^2 + x$

Work out the value of $\frac{d^2y}{dx^2}$ when $x = 2$

.....

(3)

5. $y = x^3 - 2x^2$

Work out the value of $\frac{d^2y}{dx^2}$ when $x = -3$

.....

(3)

---

6. $y = \frac{2}{3}x^6 - \frac{1}{2}x^4$

Work out the value of $\frac{d^2y}{dx^2}$ when $x = -1$

.....

(3)

7. $y = \dfrac{4x^6 - x^5}{2x}$

Work out $\dfrac{d^2y}{dx^2}$

.....

(4)

---

8. $y = (x^2 + 5)(2 - x)$

Work out the value $\dfrac{d^2y}{dx^2}$ when $x = -2$

.....

(4)

9. $y = ax^3 - x^2$

Given $\frac{d^2y}{dx^2} = -23$ when $x = -\frac{1}{2}$

.....

(4)