



CHEMISTRY ONLINE
— **TUITION** —

Phone: +442081445350

www.chemistryonlinetuition.com

Email: asherrana@chemistryonlinetuition.com

PURE MATH

ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	DIFFERENTIATION
PAPER TYPE:	QUESTION PAPER - 8
TOTAL QUESTIONS	8
TOTAL MARKS	43

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Questions**Q1.**

A curve has equation

$$y = \frac{x^5 - 2x^4 + 3x^3 - 4x^2 + 5x - 8}{x^4 - 4x^3 + 6x^2 - 8x + 10}$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(3)

(b) Hence find the exact range of value of x for which the curve is increasing.

(2)

(Total for question = 5 marks)

Q2.

A curve has equation

$$y = \frac{x^4 - 4x^3 + 6x^2 - 8x - 10}{x^3 - 3x^2 + 2x}$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(3)

(b) Hence find the exact range of value of x for which the curve is increasing.

(3)

(Total for question = 6 marks)

I am Sorry !!!!!

Q3.

A curve has equation

$$y = \sqrt{3x^2 + 2x + 1}$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(2)

(b) Hence find the exact range of value of x for which the curve is increasing.

(3)

(Total for question = 5 marks)



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Q4.

A curve has equation

$$y = (2x^2 + 2x - 1)^3$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(3)

(b) Hence find the exact range of value of x for which the curve is increasing.

(3)

(Total for question = 6 marks)

Q5.

A curve has equation

$$y = e^{3x^2+2x}$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(2)

(b) Hence find the exact range of value of x for which the curve is increasing.

(2)

(Total for question = 4 marks)

Q6.

A curve has equation

$$y = \sin(2x^2 + 3x)$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(4)

(b) Hence find the exact range of value of x for which the curve is increasing.

(2)

(Total for question = 6 marks)

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Q7.

A curve has equation

$$y = \ln(3x^2 + 3x + 1)$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(2)

(b) Hence find the exact range of value of x for which the curve is increasing.

(2)

(Total for question = 4 marks)

Q8.

A curve has equation

$$y = e^{2x^3 - x^2 + 3x}$$

(a) Find, in simplest form, $\frac{dy}{dx}$

(4)

(b) Hence find the exact range of value of x for which the curve is increasing.

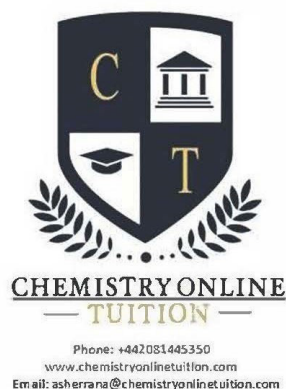
(3)

(Total for question = 7 marks)

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DR. ASHAR RANA



- Founder & CEO of Chemistry Online Tuition Ltd.
- Tutoring students in UK and worldwide since 2008
- CIE & EDEXCEL Examiner since 2015
- Chemistry, Physics, and Math's Tutor

CONTACT INFORMATION FOR CHEMISTRY ONLINE TUITION

- UK Contact: 02081445350
 - International Phone/WhatsApp: 00442081445350
 - Website: www.chemistryonlinetuition.com
 - Email: asherrana@chemistryonlinetuition.com
- Address: 210-Old Brompton Road, London SW5 OBS, UK