

Phone: +442081445350
www.chemistryonlinetuition.com

Email:asherrana@chemistryonlinetuition.com

## PURE MATH

## ALGEBRA AND FUNCTION

Level \& Board

TOPIC:
FACTOR THEOREM

PAPER TYPE:44

## Questions

Q1.

$$
f(x)=x^{3}-19 x-30
$$

(a) Show that $(x+2)$ is a factor of $f(x)$.
(3)
(b) Factorize $f(x)$ completely.
(Total for question = 7 marks)

Q2.
The expression $2 x^{3}+a x^{2}+b x-6$ when divided by $\mathrm{x}-2$ and $2 \mathrm{x}+3$ leaves reminders of 28 and 0 respectively.

Find the values of $a$ and $b$. with these values $a$ and $b$, factorize the given expression completely.
(Total for question = 5 marks)

Q3.
Find the roots of the equation $4 x^{3}-8 x^{2}-3 x+9=0$
(4)

Q4. Show that $(\mathrm{x}-2)$ is a factor of $x^{3}+2 x^{2}-5 x-6$.
(Total for question = 4 marks)

Q5.
Let $P(x)=3 x^{3}-5 x^{2}+3 x-10$. Show that
(i) $\quad \mathrm{P}(2)=0$
(ii) $(\mathrm{x}-2)$ is a factor of $\mathrm{P}(\mathrm{x})$.
(Total for question = 4 marks)

Q6.
Use the factor theorem to determine whether $g(x)$ is a factor of $p(x)$, If $p(x)=2 x^{3}+x^{2}-2 x-1, \quad g(x)=x+1$

Q7.
Determine which of the polynomials as has $(\mathrm{x}+1)$ a factor:
if $x^{3}-x^{2}-(2+\sqrt{2}) x+\sqrt{2}$
(5)
(Total for question = 5 marks)
(Total for question = 4 marks)

Q8.

$$
f(x)=x^{3}+4 x^{2}+x-6
$$

(a) use the factor theorem to show that $(x+2)$ is a factor of $f(x)$.
(b) Factorize $f(x)$ completely.
(2)
(c) Write down all the solutions to the equation

$$
x^{3}+4 x^{2}+x-6=0
$$



- 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

