SQA Past paper questions

Exemplar – Paper 1 – Question 5

For the polynomial, $x^3 - 4x^2 + ax + b$

- $x - 1$ is a factor
- -12 is the remainder when it is divided by $x - 2$

(a) Determine the values of a and b. 4

(b) Hence solve $x^3 - 4x^2 + ax + b = 0$. 4

Click here for video solution.

2014 – Paper 1 – Question 22

For the polynomial $6x^3 + 7x^2 + ax + b$,

- $x + 1$ is a factor
- 72 is the remainder when it is divided by $x - 2$.

(a) Determine the values of a and b. 4

(b) Hence factorise the polynomial completely. 3

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2001 – Paper 2 – Question 1

(a) Given that $x + 2$ is a factor of $2x^3 + x^2 + kx + 2$, find the value of k. 3

(b) Hence solve the equation $2x^3 + x^2 + kx + 2 = 0$ when k takes this value. 2

Click here for video solution.