Algebraic Methods 2 - Edexcel Past Exam Questions

1.
$$f(x) = 2x^3 - 7x^2 - 10x + 24.$$

(*a*) Use the factor theorem to show that $(x + 2)$ is a factor of f(x). **(2)**

(*b*) Factorise f(x) completely. **(4)**

June 12 Q4

2.
$$f(x) = 2x^3 - 5x^2 + ax + 18$$

where a is a constant.

Given that $(x - 3)$ is a factor of f(x),

(*a*) show that $a = -9$, **(2)**

(*b*) factorise f(x) completely. **(4)**

June 13 Q3(*edited*)

3.
$$f(x) = 2x^3 - 7x^2 + 4x + 4.$$

(*a*) Use the factor theorem to show that $(x - 2)$ is a factor of f(x). **(2)**

(*b*) Factorise f(x) completely. **(4)**

June 14 Q2

4.
$$f(x) = -4x^3 + ax^2 + 9x - 18, \quad \text{where } a \text{ is a constant.}$$

Given that $(x - 2)$ is a factor of f(x),

(*a*) find the value of a, **(2)**

(*b*) factorise f(x) completely, **(3)**

June 14(R) Q4

5.
$$f(x) = 6x^3 + 13x^2 - 4$$

(a) Use the factor theorem to show that $(x + 2)$ is a factor of f(x). **(2)**

(b) Factorise f(x) completely. **(4)**

June 16 Q4(*edited*)

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6.
$$f(x) = -6x^3 - 7x^2 + 40x + 21$$

(a) Use the factor theorem to show that $(x + 3)$ is a factor of f(x) **(2)**

(b) Factorise f(x) completely. **(4)**

June 17 Q6 (*edited*)

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