Polynomials

- 1. Show that (x + 3) is a factor of $f(x) = 2x^3 + 5x^2 4x 3$ and express f(x) in fully factorised form.
- 2. Factorise fully:
 - a) $X^3 8x^2 + 19x 12$ b) $2x^3 + 7x^2 + 2x 3$
- **3**. Given that (x + 3) is a factor of $f(x) = 2x^3 3x^2 + Kx 15$, find the value of K and factorise fully when K has this value.
- **4**. Given that (2x 1) is a factor of $8x^3 + 4x^2 + Kx + 15$, find the value of K and factorise f(x) fully when K has this value.
- 5. Find the values of a and b if (x 3) and (x + 2) are factors of $x^3 + ax^2 + bx + 42$.
- **6**. From the graph determine the function y = f(x).



7. Sketch the graph of $y = x^3 + x^2 - x - 1$.

Revision

8. Find the area enclosed by the graphs of $y = 6 - x - x^2$ and y = x + 3