**7C The Factor Theorem**

1. Show that $(x-2)$ is a factor of $x^{3}+x^{2}-4x-4$ by:
2. Algebraic division
3. The factor theorem
4. Fully factorise $2x^{3}+x^{2}-18x-9$
5. Hence, sketch the graph of $y=2x^{3}+x^{2}-18x-9$

x

y

1. Given that (x + 1) is a factor of 4x4 – 3x2 + a, find the value of a.