15. Given $z = 1 - 2i$ is a root of $p(z) = z^4 + 9z^3 - 2z^2 - 8z + 20$, factorise the polynomial p fully over $\mathbb{C}$.

(z-1-2i)(z-1+2i)=z^2-z+2zi-z+1-2i-2zi+2i-4i^2=
=z^2-2z+5

```
z^4+9z^3-2z^2-8z+20  |      z^2-2z+5
z^4-2z^3+5z^2        |      z^2+11z+15
      11z^3-7z^2-8z
      11z^3-22z^2+55z
            15z^2-63z+20
            15z^2-30z+75
```