

### FP1 Quiz 1

- 1) If  $z_1 = 2 + 3i$  and  $z_2 = 3 - 4i$  then  $z_1 \div z_2 =$
- $-6 + 7i$
  - $\frac{1}{25}(6 + 17i)$
  - $\frac{1}{25}(-6 + 17i)$
  - $\frac{1}{5}(6 - 17i)$
  - $\frac{1}{25}(-6 - 17i)$
- 2) What is the inverse of the following matrix  $A = \begin{pmatrix} 2 & -1 \\ 3 & 4 \end{pmatrix}$
- $\begin{pmatrix} 4 & 1 \\ -3 & 2 \end{pmatrix}$
  - $\frac{1}{11} \begin{pmatrix} 4 & 1 \\ -3 & 2 \end{pmatrix}$
  - $\frac{1}{11} \begin{pmatrix} 4 & -1 \\ 3 & 2 \end{pmatrix}$
  - $\frac{1}{5} \begin{pmatrix} 4 & 1 \\ -3 & 2 \end{pmatrix}$
  - $\begin{pmatrix} 4 & -1 \\ 3 & 2 \end{pmatrix}$
- 3)  $\sum_{r=7}^{11} r =$
- 38
  - 66
  - 44
  - 57
  - 45
- 4) Write  $7\left(\cos\frac{\pi}{3} + i\sin\frac{\pi}{3}\right)$  in the form  $a + bi$
- $\frac{7}{2} + \frac{7\sqrt{3}}{2}i$
  - $\frac{7}{2} - \frac{7\sqrt{3}}{2}i$
  - $-\frac{7}{2} + \frac{7\sqrt{3}}{2}i$
  - $\frac{7\sqrt{3}}{2} + \frac{7}{2}i$
  - $\frac{7}{2} + \frac{7}{2}i$
- 5) Work out  $\sum_{r=1}^n r(r+4)$
- $\frac{1}{4}n(n+2)(2n+13)$
  - $\frac{1}{4}n(n+1)(2n+13)$
  - $\frac{1}{6}n(n+1)(2n+13)$
  - $\frac{1}{6}(n+1)(2n+13)$
  - $\frac{1}{6}n(n+2)(2n+13)$