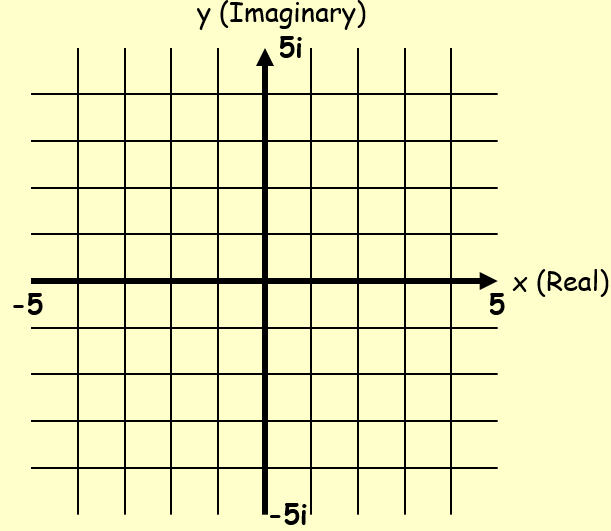
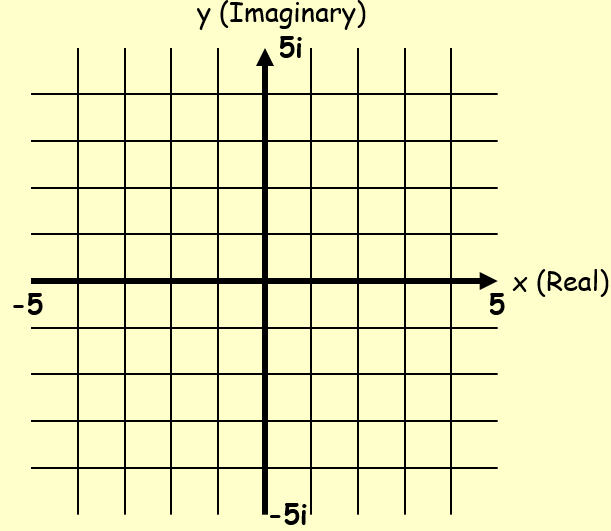
**2A Introduction to Argand Diagrams**



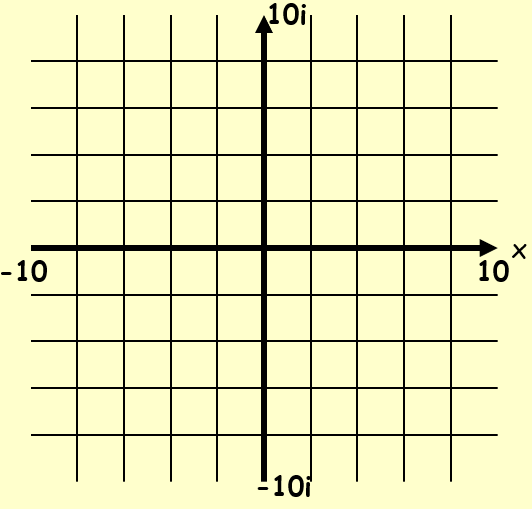
1. Represent the following complex numbers on an Argand diagram:



Find the magnitude of |OA|, |OB| and |OC|, where O is the origin of the Argand diagram, and A, B and C are z1, z2 and z3 respectively

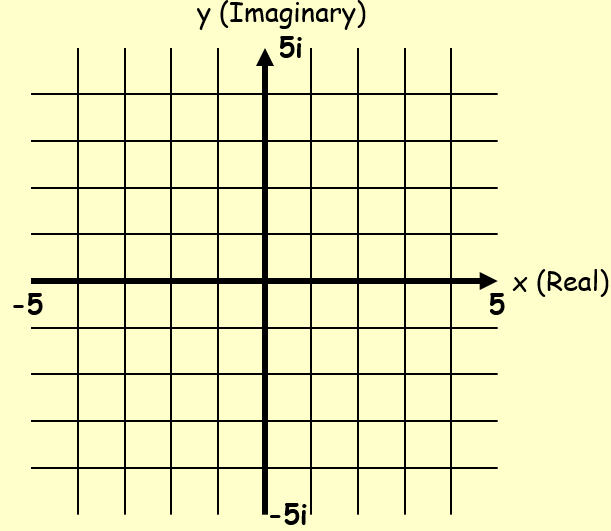


Show z1, z2 and z1 + z2 on an Argand diagram

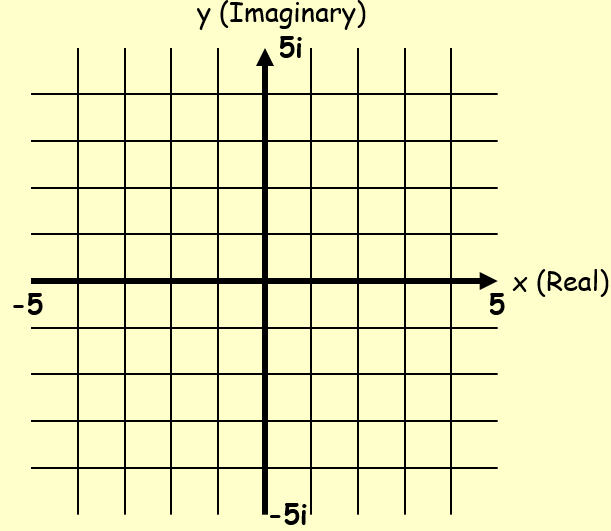




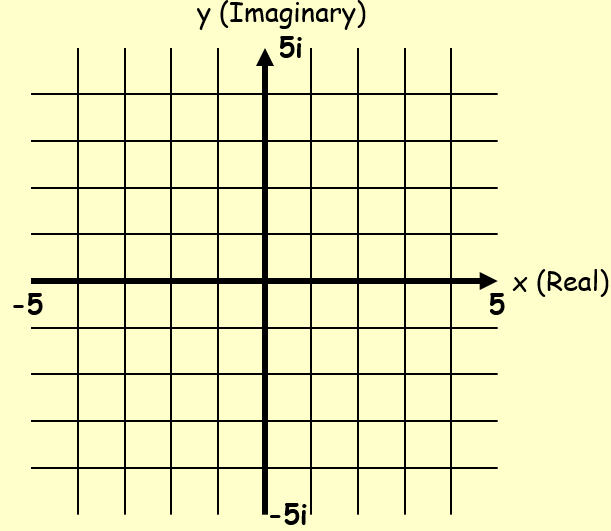
Show z1, z2 and z1 - z2 on an Argand diagram



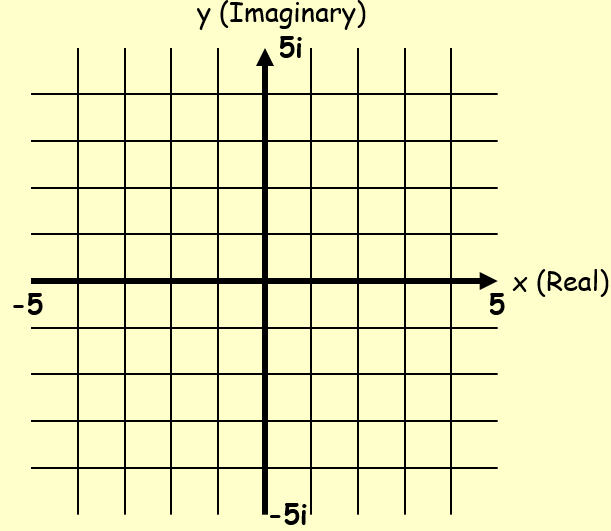
**2B Modulus & Argument**



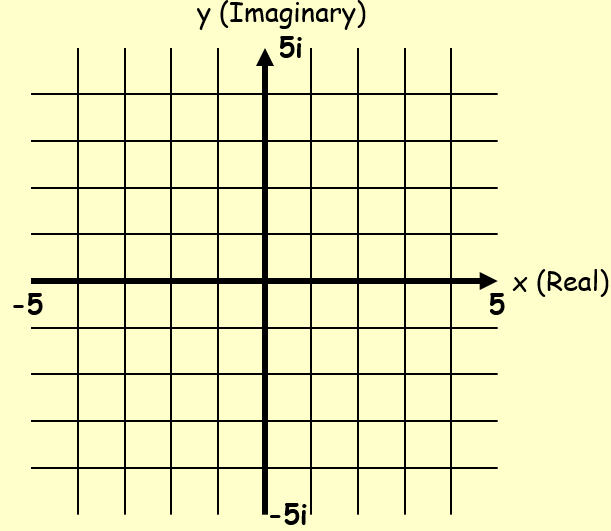
1. Find, to two decimal places, the modulus and argument of z = 4 + 5i



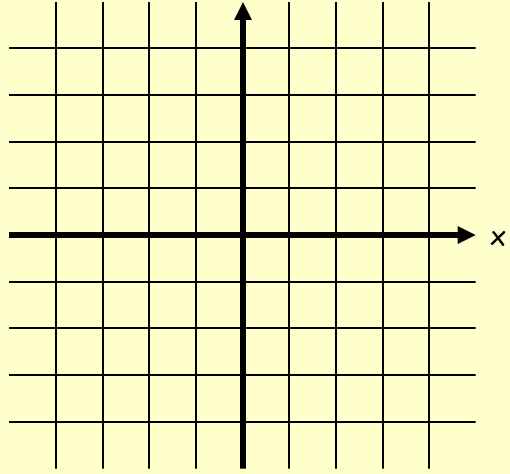
1. Find, to two decimal places, the modulus and argument of z = -2 + 4i



1. Find, to two decimal places, the modulus and argument of z = -3 - 3i



**2C Modulus-Argument Form**



1. Express the numbers following numbers in the modulus argument form:

**2D Multiplying & Dividing in Modulus-Argument Form**

1. Express the following calculation in the form x + iy:

**2E Loci on Argand Diagrams**



1. Given that
2. Sketch the locus of z on an Argand diagram



1. Find the values of z that satisfy:
2. and



1. and



1. If
2. Sketch the locus of P(x,y) which is represented by z on an Argand diagram



1. Find the maximum value of argz in the interval (-π,π)



1. Use an algebraic method to find a Cartesian equation of the locus of z
2. Given that the complex number z = x + iy satisfies the equation:

Find the minimum and maximum values of |z|



Notes on Loci for |z-z1|=|z-z2|



1. Sketch the locus of P(x,y) which is represented by z on an Argand diagram, if:



1. Show that the locus is y = 3 using an algebraic method
2. Use an algebraic method to find the Cartesian equation of the locus of z if:
3. Represent the locus of z on a cartesian set of axes



Notes on Loci for argz = ɵ



1. If

Sketch the locus of P(x,y) which is represented by z on an Argand diagram. Then find the Cartesian equation of this locus algebraically.



1. If

Sketch the locus of P(x,y) which is represented by z on an Argand diagram. Then find the Cartesian equation of this locus algebraically.



1. If



Sketch the locus of z on an Argand diagram and use an algebraic method to find the equation of the line.

**2F Shading Regions on Argand Diagrams**

1. Shade on an Argand diagram the region indicated by:





