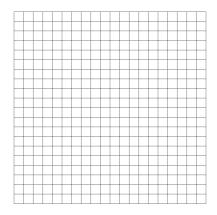
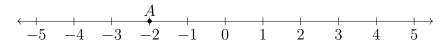
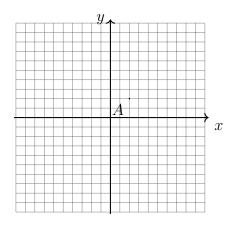
# Graphs

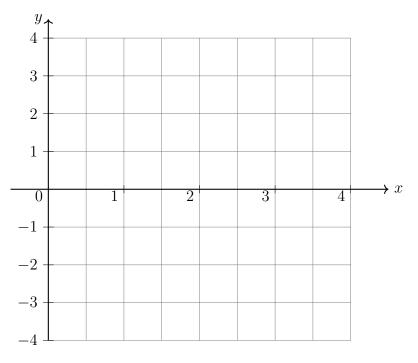
tikz grid command

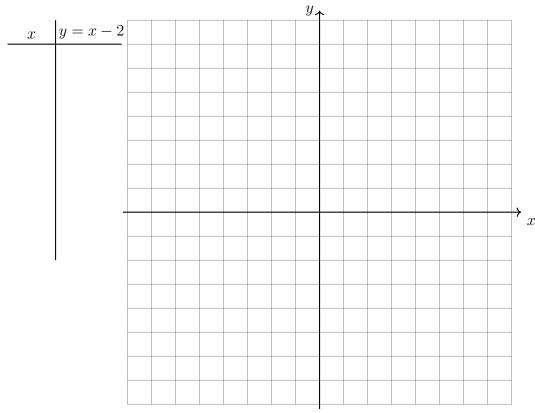


Axes



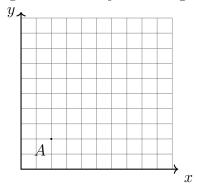


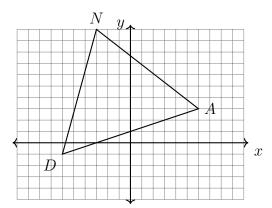




Triangle DAN is graphed on the set of axes below. The vertices of  $\triangle DAN$  have coordinates D(-6,-1), A(6,3), and N(-3,10).

Figure 1: x and y axes for grid



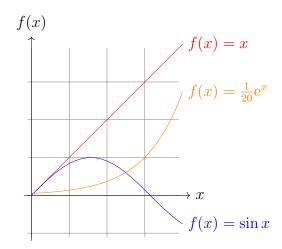


What is the area of  $\triangle DAN$ ?

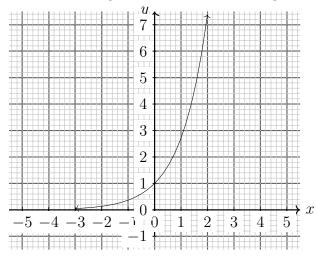


### plot functions

Use brackets around expressions, especially those having parenthesis Axis degrees conversion to radian measure for plot trig function "r"

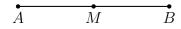


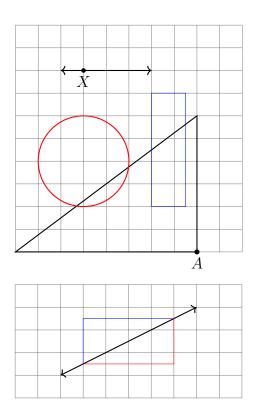
Axis numbering, with fill to cover fine grid line background



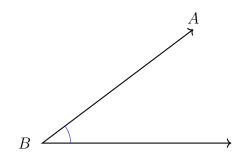
#### Drawing lines and shapes

tikz draw command, node labeling function

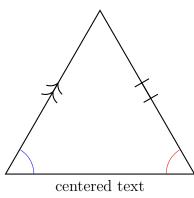




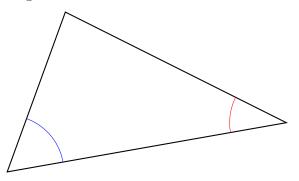
# Marking angles



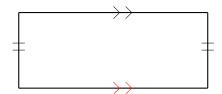
Isosceles, parallel marks, congruence marks, scaled arrows



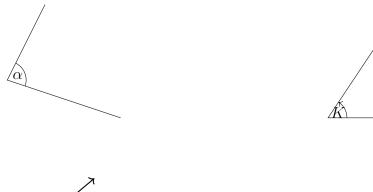
Negative arc radius

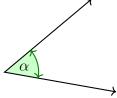


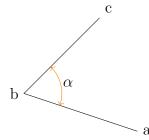
Tick mark commands



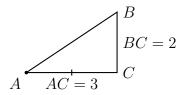
## Using coordinates and "pic" command





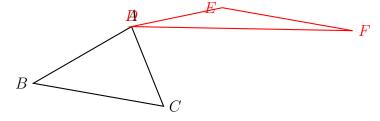


### Triangles

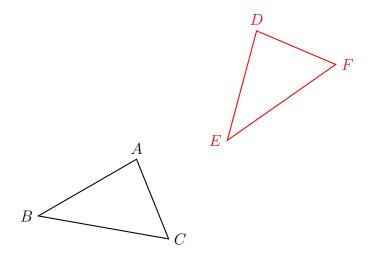




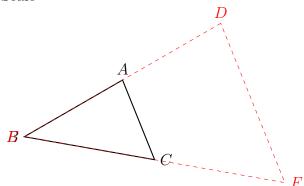
Shift using coordinates



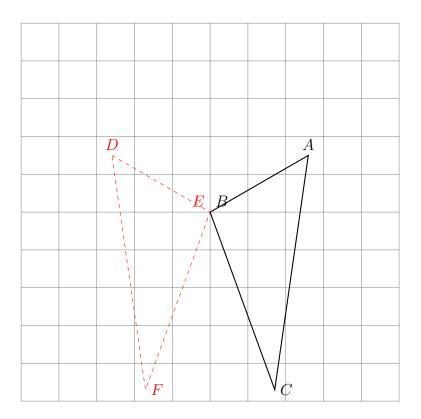
Shift and rotate



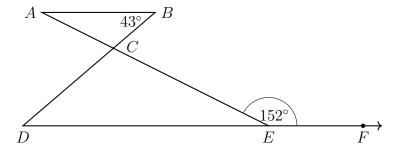
Scale

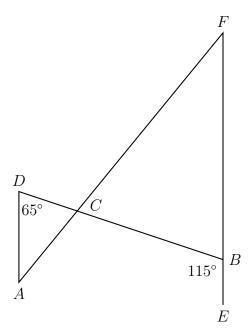


Reflect

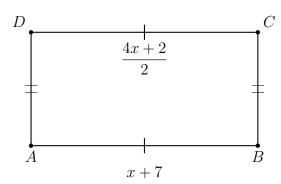


# Complex Regents angle problems



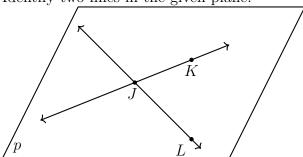


### Rectangle

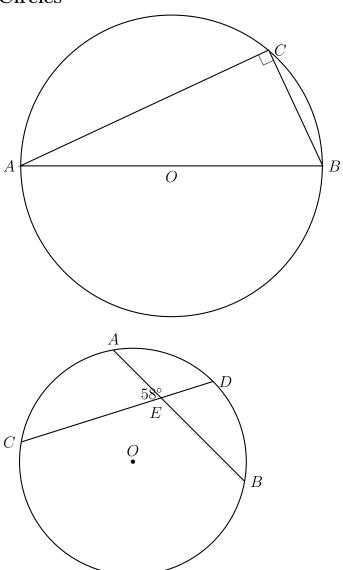


# Plane geometry

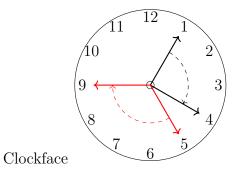
Identify two lines in the given plane.



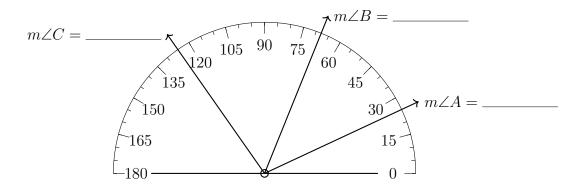
# Circles



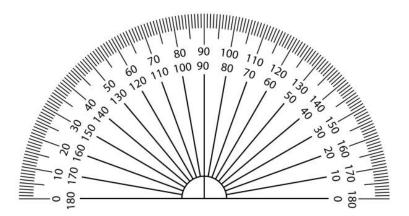
### foreach examples (circular)



Use the image of the protractor to measure each of the angles.



### Images



## IB Graph paper

