A perpendicular bisector is a line which cuts through the midpoint of a line segment at right-angles.

It doesn't necessarily join a vertex.

In both cases, CD is a perpendicular bisector.

A is the point negative two, one and B is four, seven.

Find the equation of the perpendicular bisector of AB.

Start with a sketch.

Calculate the midpoint of the line AB.

The midpoint is found by adding the x coordinates and dividing by two and doing the same for the y coordinates.

The midpoint equals negative two plus four divided by two, one plus seven divided by two, which equals one four.

Calculate the gradient of AB using y two subtract y two divided by x two subtract x one.

Which is seven subtract one divided by four subtract negative two which is six divided by six which is one.

The gradients of perpendicular lines multiply to give negative one so the gradient of the perpendicular bisector to AB is the negative reciprocal of one, which is negative one.

Find the equation of the perpendicular bisector using the gradient, negative one, the midpoint one, four and the equation y subtract b equals m bracket x subtract a bracket.

Substitute the values into the equation to get y subtract four equals negative one bracket x subtract one.

Simplify to get y equals negative x plus five.

Remember, perpendicular means at right angles to and bisector means 'divide into two equal parts'.