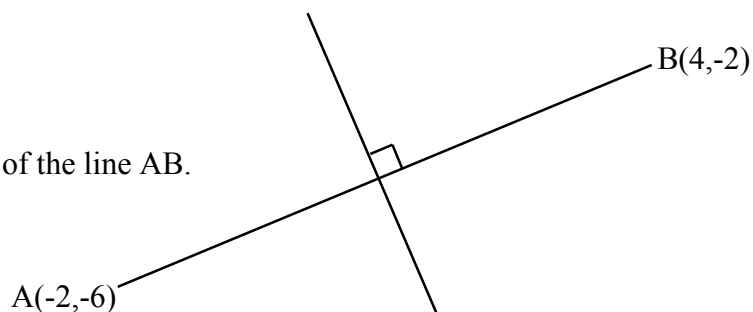# Equation of a line

Perpendicular Bisectors

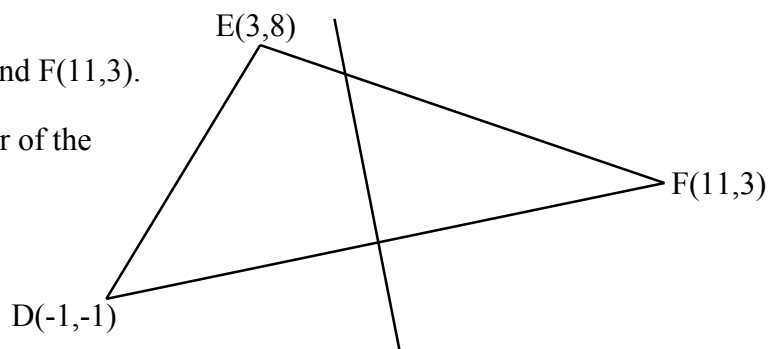1. A is the point (-2,-6) and B is (4,-4).

   Find the equation of the perpendicular bisector of the line AB.

2. A triangle DEF has vertices D(-1,-1), E(3,8) and F(11,3).

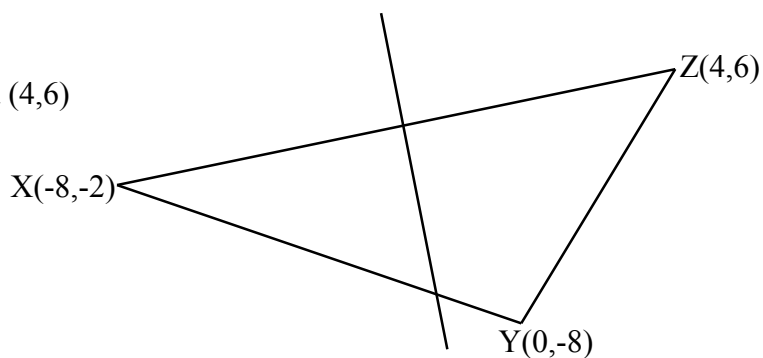   Find the equation of the perpendicular bisector of the

   line DF.

3. PQ is a line where P is (4,6) and Q is (10,-6).

   Find the equation of the perpendicular bisector of the line PQ.

4. A triangle XYZ has vertices (-8,-2), (0,-8) and (4,6)

   as shown opposite.

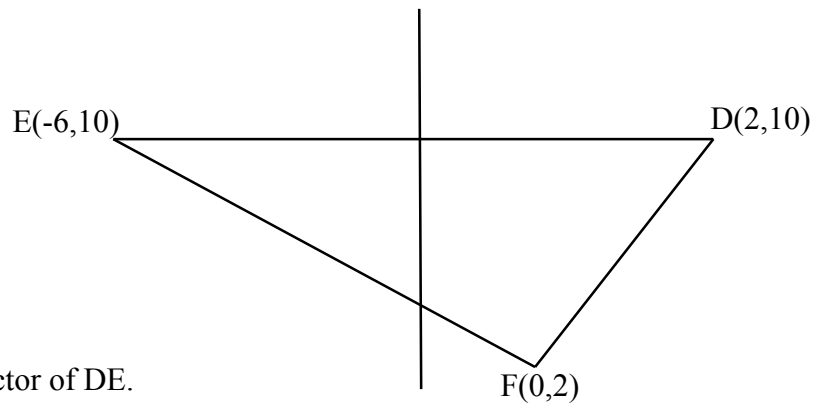   Find the equation of the perpendicular

   bisector of XZ.

5. A triangle has vertices K(-2,-3), L(5,-7) and M(6,1).

   (a) Find the equation of the perpendicular bisector of the line KM.

   (b) Show that the point L lies on this line.

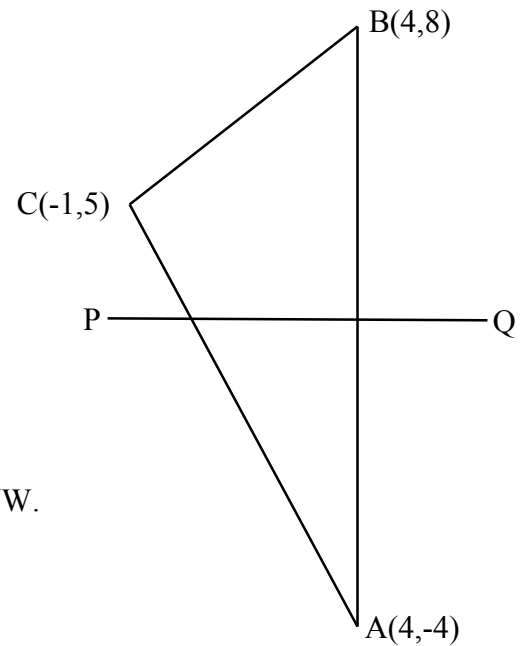   (c) What kind of triangle is triangle KLM?

6. The diagram opposite shows a triangle DEF with vertices D(2,10), E(-6,10) and F(0,2).

E(-6,10)   D(2,10)

F(0,2)

Find the equation of the perpendicular bisector of DE.

7. In the diagram opposite the line PQ is the perpendicular bisector of the AB.

B(4,8)

C(-1,5)

P ———————————— Q

Find the equation of PQ.

A(4,-4)

8. A triangle UVW has vertices U(3,3), V(5,6) and W(10,3).

Find the equation of the perpendicular bisector of the line UW.

9. Triangle PQR has vertices P(-2,2), Q(8,2) and R(4,6).

(a) **Write down** the equation of the perpendicular bisector of PQ.
(b) Find the equation of the perpendicular bisector of PR.
(c) Find the point of intersection of these two lines.

10. The diagram shows a triangle ABC with vertices A(-1,-5), B(5,7) and C(11,1).

B(5,7)

C(11,1)

D

A(-1,-5)

(a) Find the equation of the perpendicular bisector of AB.

(b) Find the equation of the perpendicular bisector of AC.

(c) Find the coordinates of D, the point of intersection of these two lines.