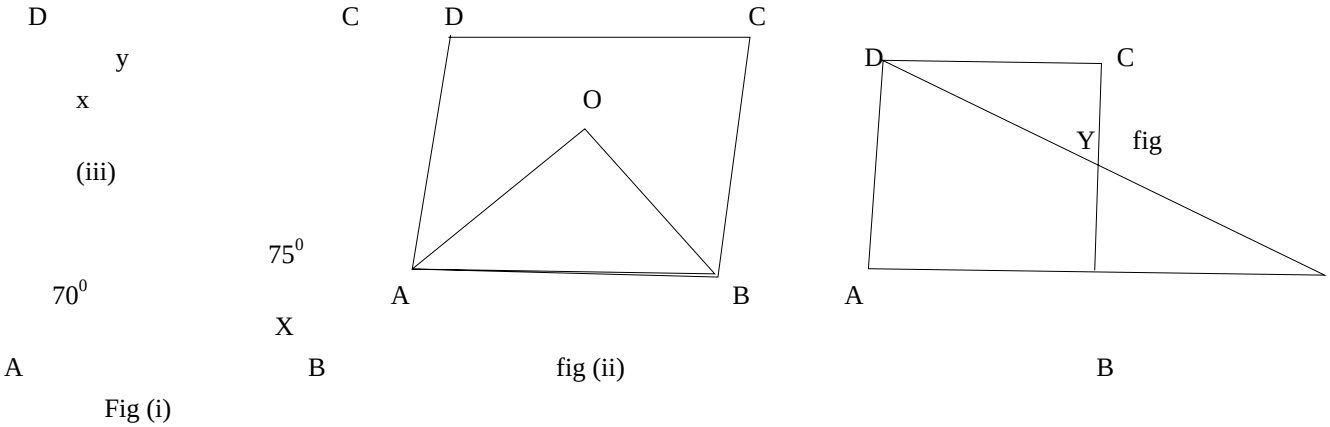
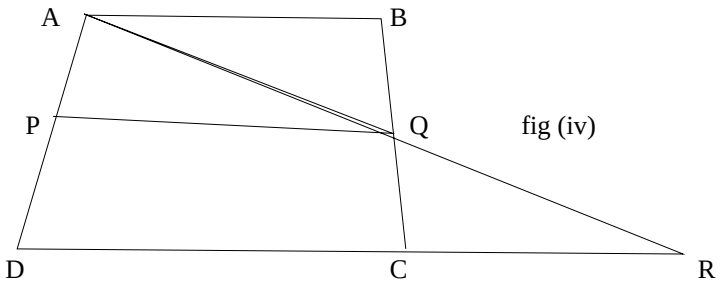
Class : IX Subject : Mathematics Assignment 8: Quadrilaterals

1. In fig (i) ABCD is a parallelogram in which $\angle DAB = 70^0$, $\angle DBC = 75^0$. Find x and y.
2. The adjacent angles of a parallelogram are $(5x - 3)^0$ and $(5x - 67)^0$. Find all the angles of the parallelogram.
3. If the opposite angles of a parallelogram are $(3x - 3)^0$ and $(6x - 69)^0$, find all the angles of the parallelogram.
4. In fig (ii) AO, BO bisects $\angle A$, $\angle B$ of the //gm ABCD. Prove that $\angle AOB = 90^0$.
5. In fig (iii) the side AB of //gm ABCD is produced to a point X such that BX = AB. Prove that DX bisects BC.



6. In an isoscelesΔABC, AB = AC. D, F, E are midpoints of the sides BC, CA, AB respectively. Show that AD $\perp$ EF and AD, EF bisect each other.
7. In fig (iv) P, Q are midpoints of the non-parallel sides AD and BC of a trapezium ABCD. Show that PQ = ½(AB + DC). (Hint: join AQ and produce it to meet DC produced at R)



8. If ABCD is a rectangle in which $\angle BAC = 35^0$, find $\angle DBC$.
9. If X, Y are the midpoints of sides AB, CD of a parallelogram ABCD respectively, show that AXCY is a //gm.