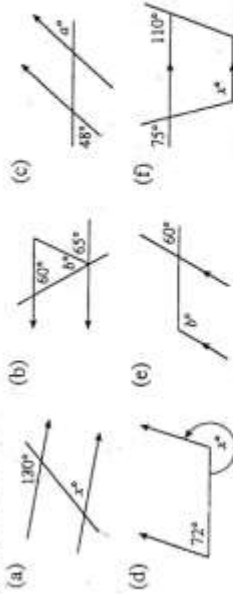


Geometry - Questions

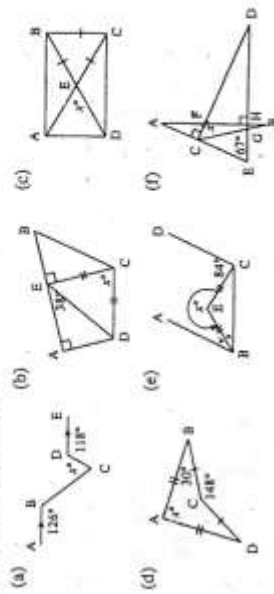
1. Complete the following statements

- (a) Complementary angles add up to ---° .
- (b) Supplementary angles add up to ---° .
- (c) Angles on a straight line add up to ---° .
- (d) Vertically opposite angles are always ---° .
- (e) Angles at a point always add up to ---° .
- (f) The angle sum of a triangle is ---° .
- (g) The angle sum of a quadrilateral is ---° .
- (h) The base angles of an isosceles triangle are ---° .
- (i) Any angle of an equilateral triangle is equal to ---° .
- (j) For a pair of parallel lines cut by a transversal
 - (i) alternate angles are --- .
 - (ii) corresponding angles are --- .
 - (iii) co-interior angles are --- .

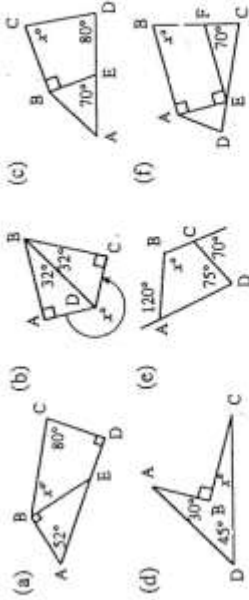
2. Find the value of the pronumeral in each case.



3. Find the value of x.



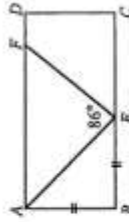
4. Find the size of x in each case. Give reasons for your answer.



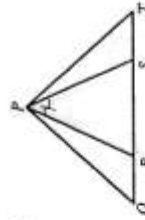
5. Find the sum of all the interior angles of the pentagon in the diagram.



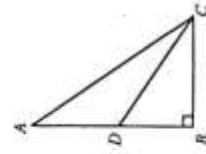
6. ABCD is a rectangle. AB = BE and $\angle AEF = 86^\circ$. Determine the measure of $\angle AFE$.



7. In the diagram, the measure of angle PRQ is 120° , and the measure of angle PST is 110° . Find the Measure of angle RPS.



8. In the diagram, AD = 5, BD = 4 and the area of $\triangle ACD$ is 15. Find the area of $\triangle ABC$.

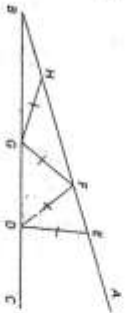


HARDER QUESTIONS

9. If the lines shown are parallel, prove that $x = 360^\circ - a - b$.



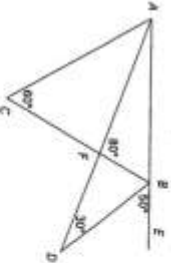
10. In the diagram $BH = GH = GF = FD = DE$ and $\angle BDE = 150^\circ$, find $\angle EBD$.



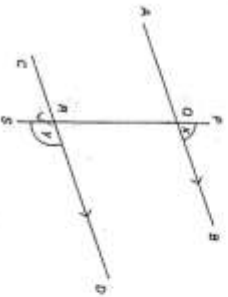
11. PQR is a straight line. SQ bisects $\angle PQT$ and VQ bisects $\angle TQR$. Prove that $\angle VQS = 90^\circ$.



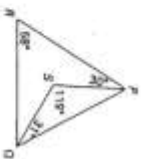
12. In this diagram, ABE is a straight line. Using the angles marked, prove that AD bisects $\angle CAB$ and DB bisects $\angle CBE$.



13. AB is parallel to CD and PQRS is a transversal. If $y = 3x$, find the size of all the angles, giving reasons.



14. (a) In $\triangle PQR$, $\angle PRQ = 58^\circ$, $\angle PSQ = 119^\circ$, $\angle PQS = 31^\circ$, $\angle RPS = 30^\circ$. Show that SP bisects $\angle RPQ$ and SQ bisects $\angle PQR$.

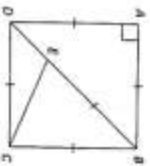


- (b) In $\triangle ABC$, DB bisects $\angle ABC$ and DC bisects $\angle ACB$. If $\angle BAC = p$, find the size of $\angle BDC$ in terms of p .
Hint: let $\angle DBC = x$ and $\angle DCB = y$.

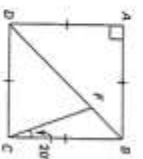


15. Find the size of all the angles in the following figures.

(a)



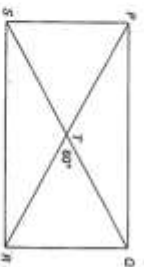
(b)



In the square ABCD, $EB = BC$

In the square ABCD, $\angle BCE = 20^\circ$

16. PQRS is a rectangle. The diagonals PR and SQ intersect at T. If $\angle QTR = 60^\circ$, prove that $SQ = 2QR$.



17. EBDC is a square and ABE is an equilateral triangle. Find the size of all angles in the interior of figure ABCD giving reasons.

