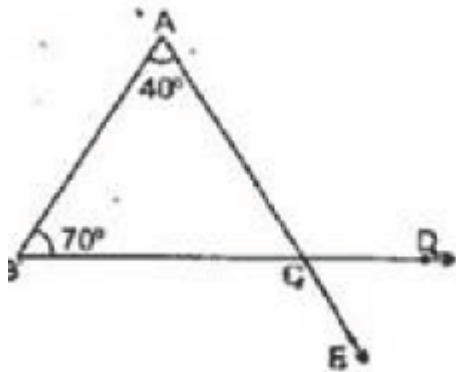


KEEPING IN TOUCH

1 Find the values of a and b. if $\frac{3+\sqrt{2}}{3-\sqrt{2}} = a + b\sqrt{2}$

2 Represent $(1 + \sqrt{9.5})$ on the number line.

3 In the figure, If $\angle A = 40^\circ$ and $\angle B = 70^\circ$, then find $\angle BCE$.



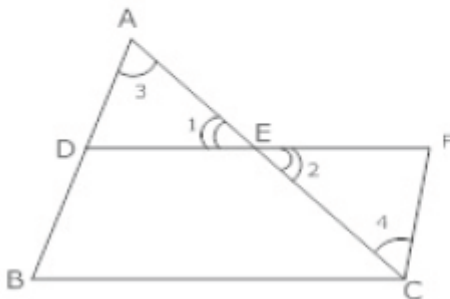
4 Prove that angles opposite to equal sides of a triangle are equal

5 Without actually calculating the cubes, Find the value of $45^3 - 25^3 - 20^3$.

6 If the area of an equilateral triangle is $16\sqrt{3}\text{cm}^2$ Find perimeter.

7 Angles of a triangle are in the ratio 3:4:5. Find largest angle of the triangle.

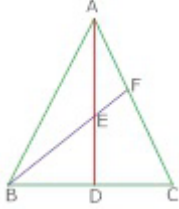
8. **Prove that in a triangle, the line segment joining the mid points of any two sides is parallel to the third side.**



QUADRILATERALS

1. The angles of a quadrilateral are in the ratio 3 : 5 : 9 : 13. Find all angles of the quadrilateral

2. 2. If the diagonals of a parallelogram are equal, show that it is a rectangle.
3. Show that the line segments joining the mid points of opposite sides of a quadrilateral bisect each other.
4. In fig AD is a median of is mid-Point of AD.BE produced meet AC at F.
Show that $AF = \frac{1}{3} AC$



5. Prove that a quadrilateral is a parallelogram if the diagonals bisect each other.
6. ABCD is a Parallelogram E and F are the mid-Points of BC and AD respectively. Show that the segments BF and DE trisect the diagonal AC.
7. Prove that the bisectors of the angles of a Parallelogram enclose a rectangle. It is given that adjacent sides of the parallelogram are unequal.
8. Prove that a quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal
9. Show that is diagonals of a quadrilateral bisect each other at right angles, then it is a rhombus.
10. Prove that the straight line joining the mid points of the diagonals of a trapezium is parallel to the parallel sides.
11. ABC is a triangle and through vertices A, B and C lines are drawn parallel to BC, AC and AB respectively intersecting at D, E and F. prove that perimeter of triangle DEF is double the perimeter of triangle ABC.
12. ABCD is a parallelogram in which E is mid-point of AD. $DF \parallel EB$ meeting AB produced at F and BC at L prove that $DF = 2DL$

