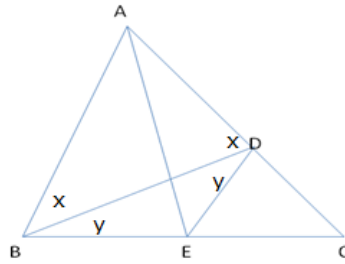


Q. 9.

(a) In the given fig., AD = AB and AE bisects $\angle A$. Prove that: BE = ED. [3]



(b) Find x, $\frac{x-b-c}{a} + \frac{x-c-a}{b} + \frac{x-a-b}{c} = 3$, if $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \neq 0$. [3]

(c) If two intersecting chords of a circle make equal angles with the diameter passing through their point of intersection, prove that the chords are equal. [4]

Q. 10.

(a) The distribution of weight (in kg) of 40 students in a class is as given below: [6]

Weight (kg)	36-40	41-45	46-50	51-55	56-60	61-65
No. of students	3	6	5	10	9	7

- Draw a histogram for the distribution
- Draw a frequency polygon for the distribution

(b) If the numerator of a fraction is increased by 2 and the denominator by 1, it becomes $\frac{5}{8}$ and if the numerator and denominator of the same fraction are each increased by 1, the fraction becomes $\frac{1}{2}$. Find the fraction. [4]

Q. 11.

(a) Construct a rectangle ABCD in which AB = CD = 5.2 cm and AC = BD = 5.7 cm and angle B measures 90 degrees. [3]

(b) Using a scale of 1 cm = 1 unit on both axes, draw the graphs of the following equation: $4x - y = 13$, $5x + y = 14$ [4]

- From the graph find,
- The co-ordinates of the point where two lines intersect
 - The area of the triangle between the lines and the x-axis.

(c) A rope is wound round the outside of a circular drum whose diameter is 70 cm and a bucket is tied to the other end of the rope. Find the number of revolutions made by the drum, if the bucket is raised by 11 m. [3]