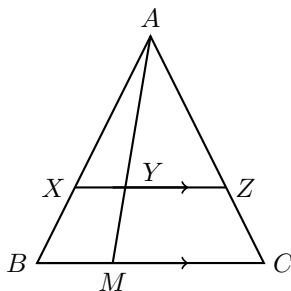
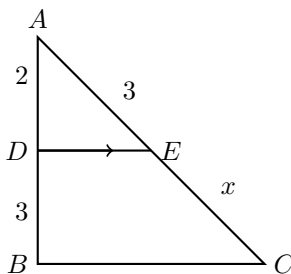


Construction and Linear

1. In the given figure, XZ is parallel to BC . $AZ = 3\text{cm}$, $ZC = 2\text{cm}$, $BM = 3\text{cm}$ and $MC = 5\text{cm}$. Find the length of XY .

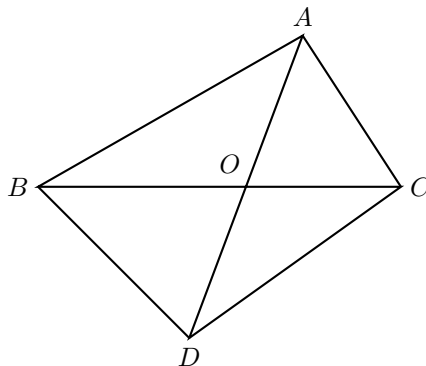


2. In the given figure, $DE \parallel BC$. If $AD = 2\text{units}$, $DB = AE = 3\text{units}$ and $EC = x\text{units}$, then find the value of x is:



- (a) 2
- (b) 3
- (c) 5
- (d) $\frac{9}{2}$

3. In the given figure, $\triangle ABC$ and $\triangle DBC$ are on the same base BC. If AD intersects BC at O, prove that $\frac{\text{ar}(\triangle ABC)}{\text{ar}(\triangle DBC)} = \frac{AO}{DO}$.



4. **Assertion (A):** Point P(0,2) is the point of intersection of y -axis with the line $3x + 2y = 4$.
Reason (R): The distance of point P(0,2) from x -axis is 2 units.
5. If the pair of equations $3x - y + 8 = 0$ and $6x - ry + 16 = 0$ represent coincident lines, then the value of 'r' is:
- $-\frac{1}{2}$
 - $\frac{1}{2}$
 - 2
 - 2
6. The pair of linear equations $2x = 5y + 6$ and $15y = 6x - 18$ represents two lines which are:
- intersecting
 - parallel
 - coincident
 - either intersecting or parallel
7. (a) Find the equations of the diagonals of the parallelogram PQRS whose vertices are P(4,2,-6), Q(5,-3,1), R(12,4,5) and S(11,9,-2). Use these equations to find the point of intersection of diagonals.

OR

- (b) A line l passes through point (-1,3,-2) and is perpendicular to both the lines $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and $\frac{x+2}{-3} = \frac{y-1}{2} = \frac{z+1}{5}$. Find the vector equation of the line l . Hence, obtain its distance from origin.