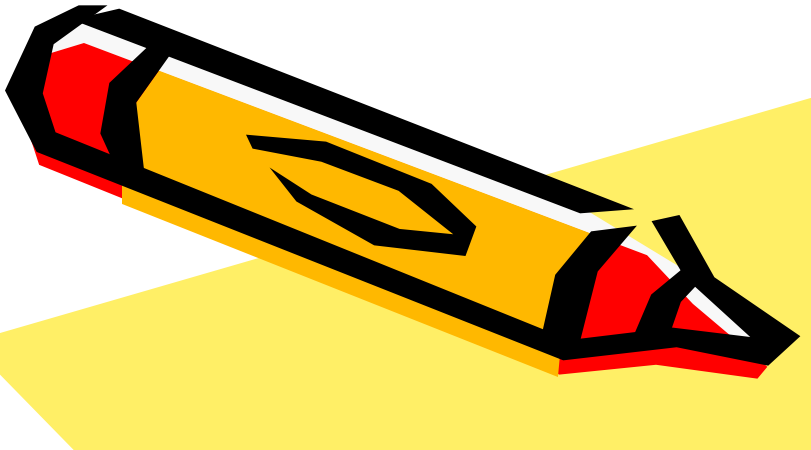
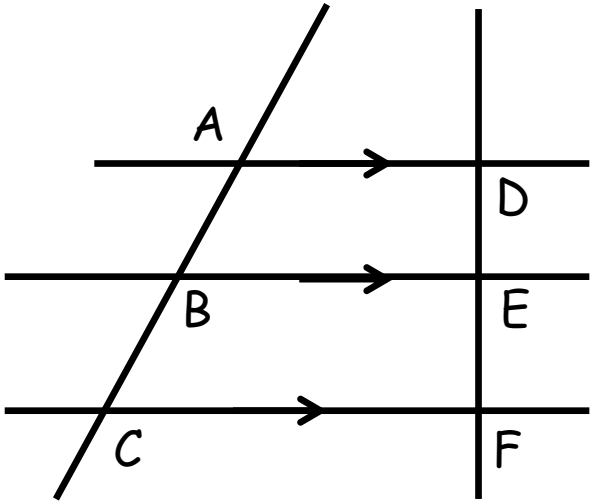


Geometry

Parallel Lines and Proportional Parts

Concepts

- Parallel lines cut their transversals proportionally

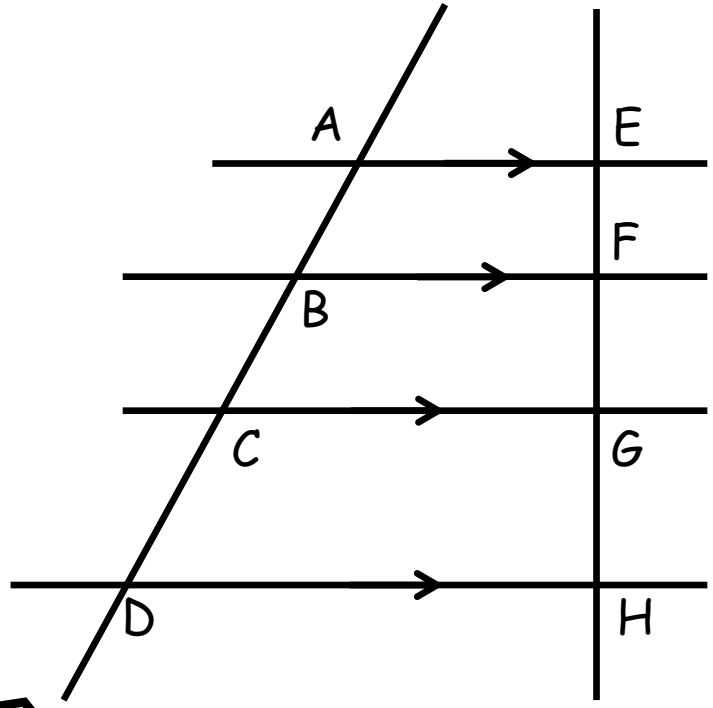


The segments between the parallel lines correspond to each other.

$$\frac{AB}{BC} = \frac{DE}{EF}$$

Concepts

- Parallel lines cut their transversals proportionally



The segments between the parallel lines correspond to each other.

$$\frac{AB}{BC} = \frac{EF}{FG}$$

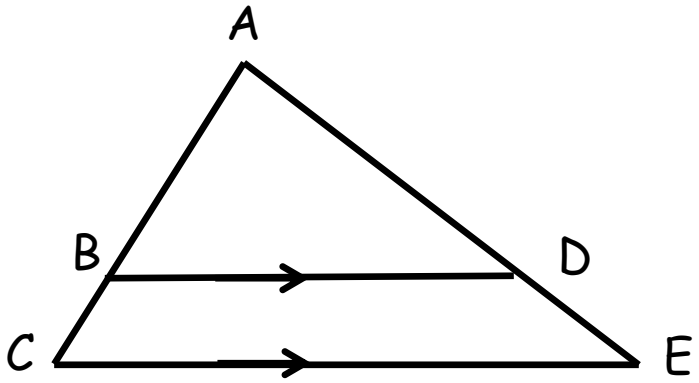
$$\frac{AB}{CD} = \frac{EF}{GH}$$

$$\frac{BC}{CD} = \frac{FG}{GH}$$

Concepts

- Parallel lines cut their transversals proportionally

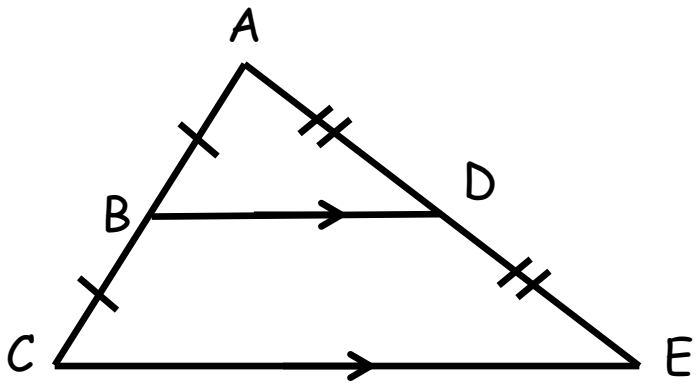
  Another Example



$$\frac{AB}{BC} = \frac{AD}{DE}$$

Concepts

- If a segment connects the midpoints of two sides of a triangle (midsegment), then it is parallel to the third side and equals one half the measurement of the third side



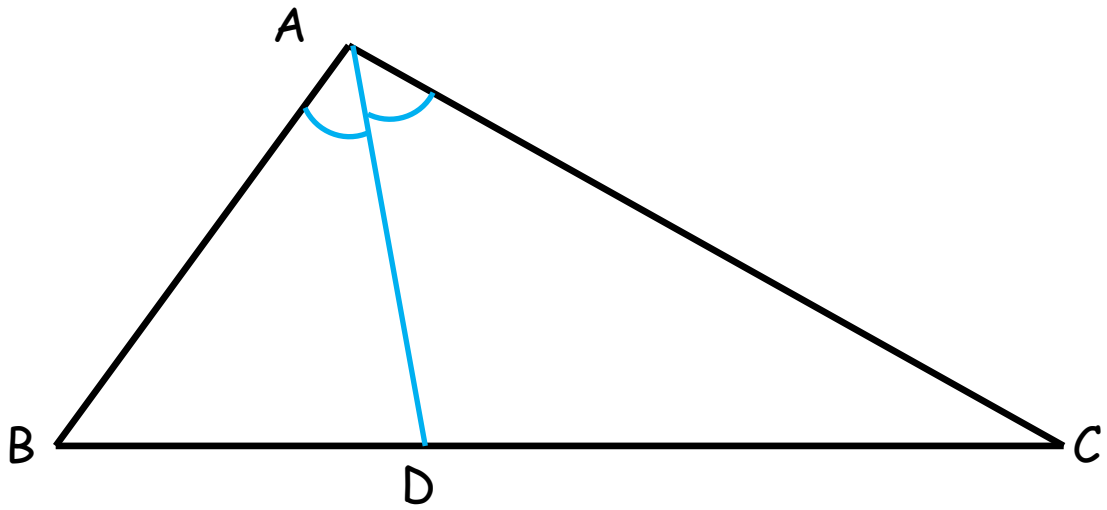
Since B and D are the midpoints of their sides, we know that:

$\overline{BD} \parallel \overline{CE}$ and

$BD = \frac{1}{2} CE$

Concepts

In a triangle, an angle bisector cuts the opposite side into segments that are proportional to the two sides of the original triangle.



$$\frac{AB}{BD} = \frac{AC}{DC}$$

Concepts