

GEOMETRY: MID-POINT THEOREM

26 MAY 2014



Lesson Description

In this lesson we:

- Look at the application of the midpoint theorem



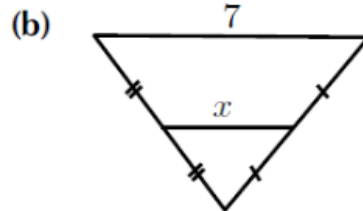
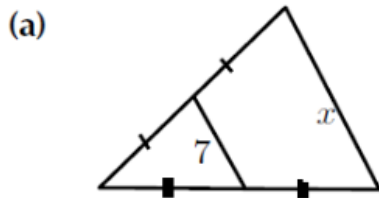
Summary

Mid-Point Theorem

The line joining the mid-points of two sides of a triangle is parallel to the third side of the triangle and equal to half the length of the third side.

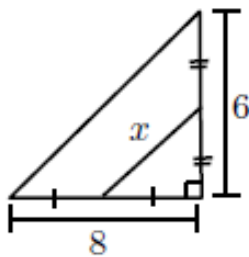
Examples

Find x and y in the following:



Test Yourself

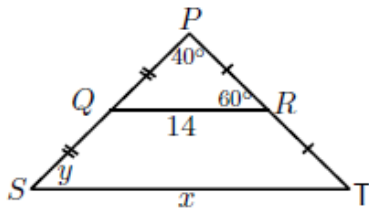
Question 1



$x =$

- A. 4
- B. 3
- C. 5
- D. 10

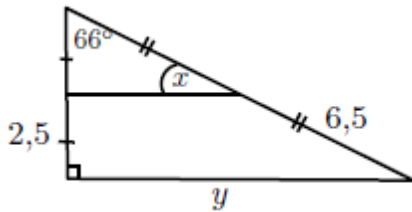
Question 2



x=

- A. 7
- B. 28
- C. 14
- D. 12

Question 3



Find x and y respectively

- A. 24 and 12
- B. 12 and 24
- C. 5 and 13
- D. 13 and 5

Question 4

True or false: The line joining the mid-points of two sides of a triangle is parallel to and twice the length of the third side of the triangle.

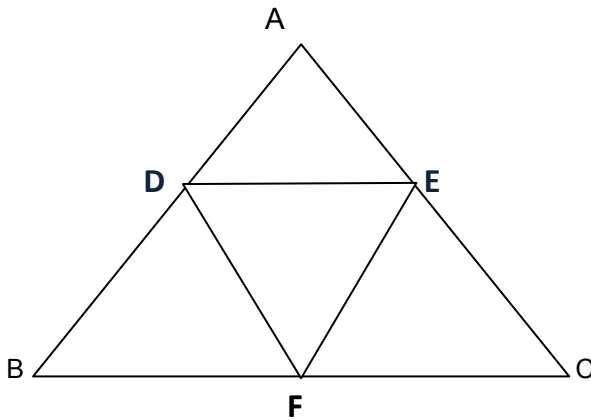
Question 5

True or false: If a line is drawn through the mid-point of a side of a triangle parallel to the second side, it will bisect the third side.



Improve your Skills

Question 1



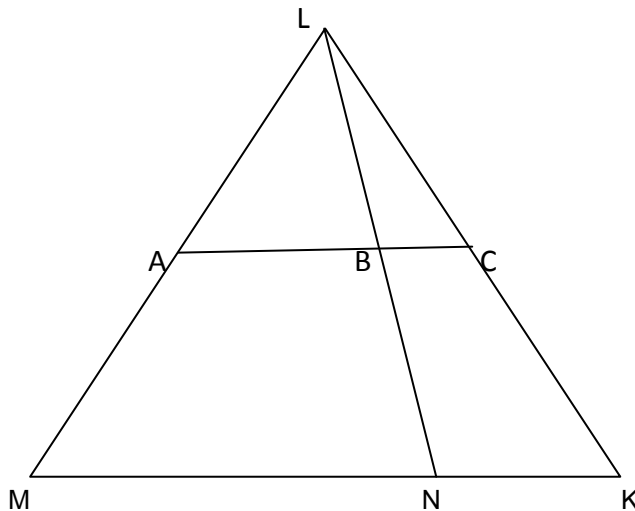
Triangle ABC is right-angled at A. D is the midpoint of AB, DE is parallel to BC and FD is perpendicular to AB.

Prove giving reasons:

- a.) $AE=EC$
- b.) $DF \parallel AC$
- c.) $BF=FC$

Question 2

It is given that $AC \parallel MK$ in $\triangle LMK$ and $LA=AM$



Prove giving reasons:

- a.) B is the midpoint of LN
- b.) $LC=CK$
- c.) $BC = \frac{1}{2}NK$