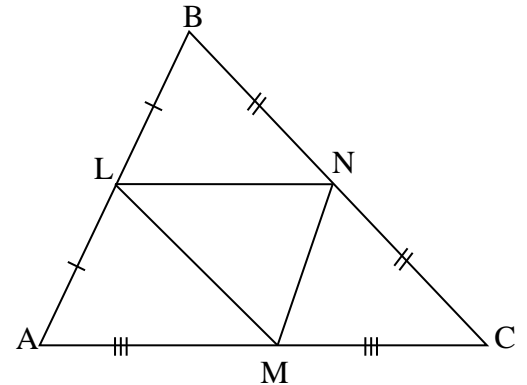


Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Triangle Midsegment and Proportionality Theorem**

**Triangle Midsegment Theorem:** The segment connecting the midpoints of two sides of the triangle is parallel to the third side and half the length of the third side.

Use  $\triangle ABC$ , where L, M, and N are midpoints of the sides.

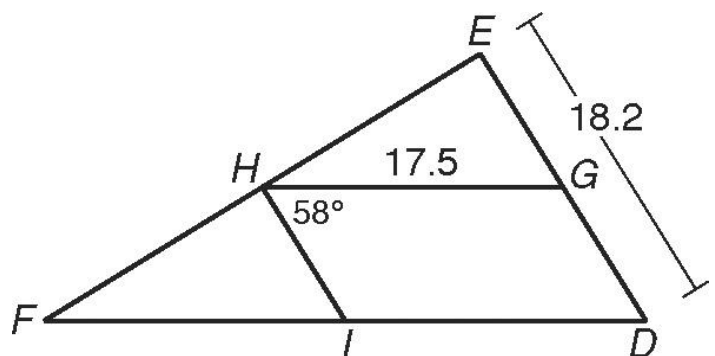


1.  $\overline{LM} \parallel$  \_\_\_\_\_
2.  $\overline{AB} \parallel$  \_\_\_\_\_
3. If  $AC = 20$ , then  $LN =$  \_\_\_\_\_
4. If  $MN = 7$ , then  $AB =$  \_\_\_\_\_
5. If  $NC = 9$ , then  $LM =$  \_\_\_\_\_
6. If  $LM = 3x + 7$ , and  $BC = 7x + 6$ , then **LM** = \_\_\_\_\_

7. If  $MN = x - 1$ , and  $AB = 6x - 18$ , then **AB** = \_\_\_\_\_

**8. Find each measure. H, G, and I are all midpoints.**

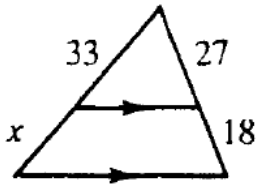
- |                        |                        |
|------------------------|------------------------|
| a) $HI$ _____          | b) $DF$ _____          |
| c) $GE$ _____          | d) $m\angle HIF$ _____ |
| e) $m\angle HGD$ _____ | f) $m\angle D$ _____   |



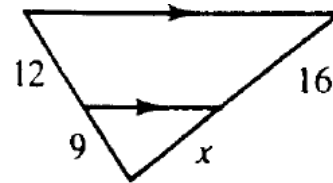
**Triangle Proportionality Theorem:** If a line parallel to one side of a triangle intersects the other two sides, then it divides the two sides proportionally.

Find the value of  $x$ :

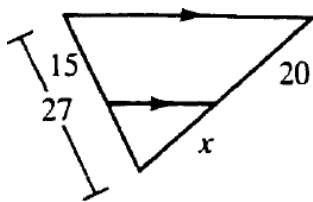
9.



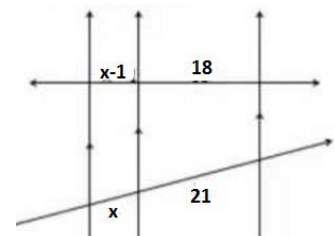
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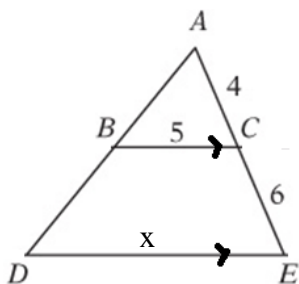
11.



12.



13.



14.

