

Name: _____ Date: _____

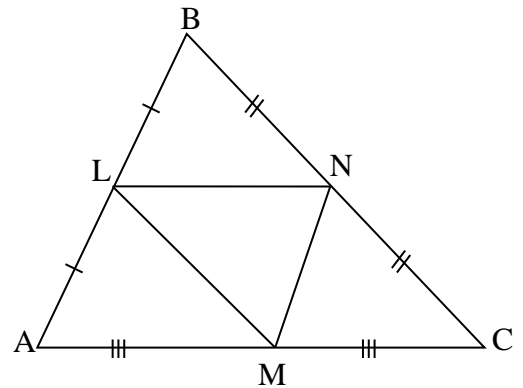
Triangle Midsegment and Proportionality Theorem

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.

$$\frac{\text{midsegment}}{1} = \frac{\text{parallel side}}{2}$$

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** = _____

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

- | | |
|--------------|-------------------------|
| 8. HI _____ | 11. $m\angle HIF$ _____ |
| 9. DF _____ | 12. $m\angle HGD$ _____ |
| 10. GE _____ | 13. $m\angle D$ _____ |

