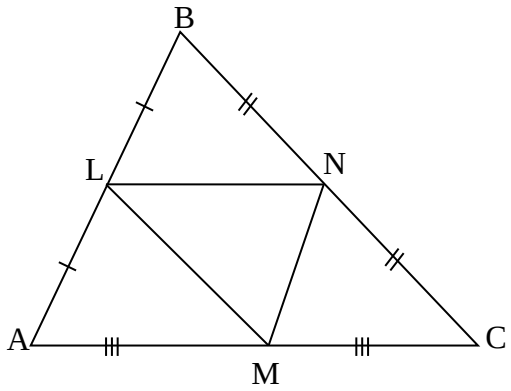
Name _____ Date _____

Day 3/4 – Triangle Midsegment and Proportionality Theorem

<u>Triangle Midsegment Theorem</u>: 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 ∆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** = _____

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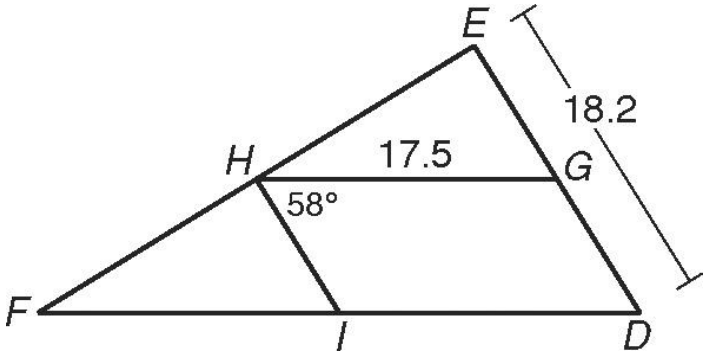
8. Find each measure. H, G, and I are all midpoints.

a) HI _____ b) DF _____

c) GE _____ d) m∠HIF_____

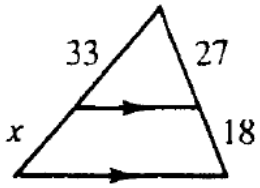
e) m∠HGD_____ f) m∠D_____



<u>Triangle Proportionality Theorem</u>: 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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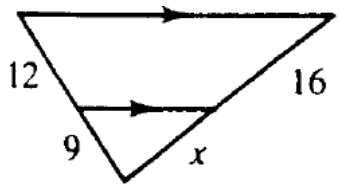

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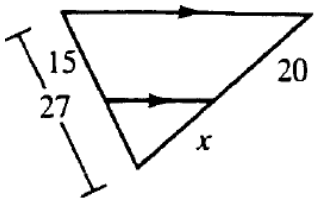

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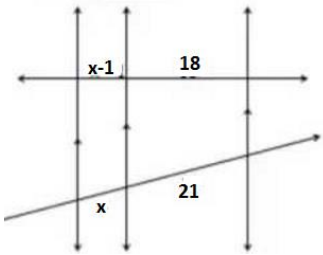

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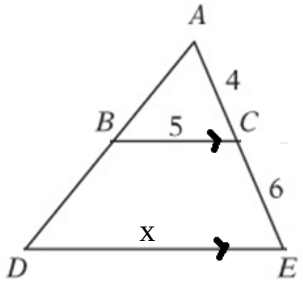

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