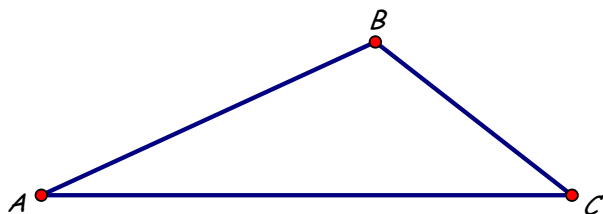
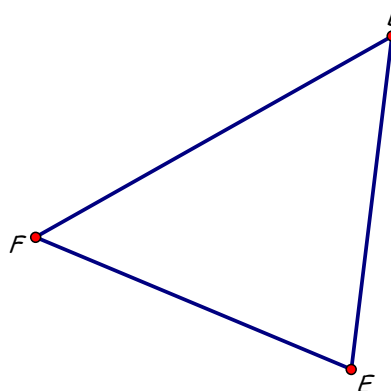


I. Constructions.

1. Construct the midsegment of $\triangle ABC$ which is parallel to \overline{AB} .

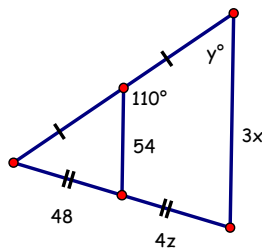


2. Construct the midsegment of $\triangle DEF$ which is equal to half the measure of \overline{DE} .

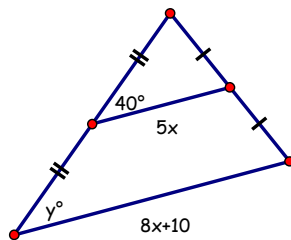


II. Find the value of the variables in each triangle. SHOW YOUR WORK.

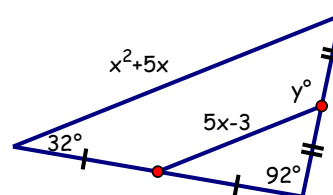
3.



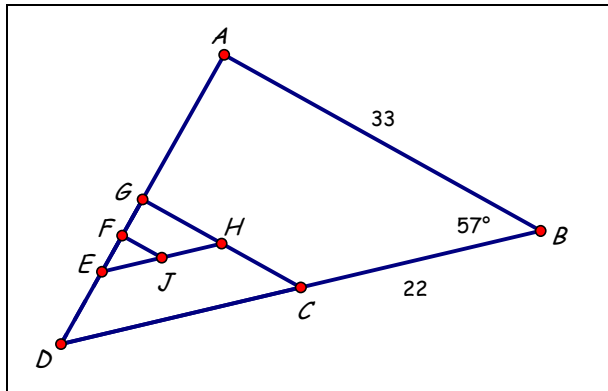
4.



5.



III. \overline{CG} , \overline{EH} , and \overline{FJ} are midsegments of $\triangle ABD$, $\triangle GCD$, and $\triangle GHE$, respectively. Find each measure.



6. CG

7. EH

8. FJ

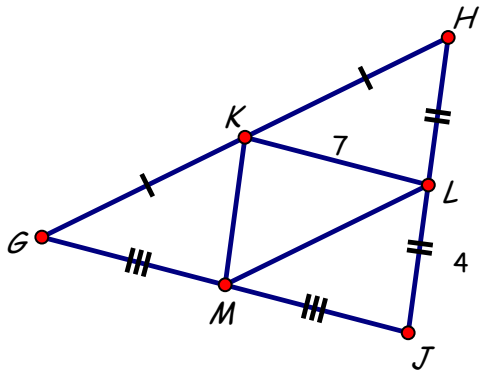
9. $m\angle DCG$

10. $m\angle GHE$

11. $m\angle FJH$

IV. $\triangle KLM$ is the midsegment triangle of $\triangle GHJ$.

$GH = 12$



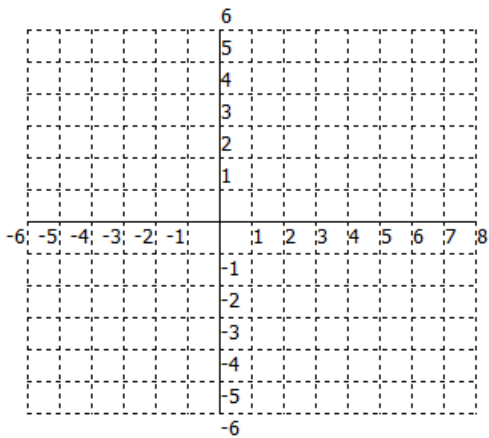
12. What is the perimeter of $\triangle GHJ$?

13. What is the perimeter of $\triangle KLM$?

14. What is the relationship between the perimeter of $\triangle GHJ$ and the perimeter of $\triangle KLM$?

V. Coordinate Geometry.

15. Graph $\triangle ABC$, given $A(-5, -5)$, $B(-3, 5)$, and $C(7, -1)$.



16. Find and graph point D , the midpoint of \overline{AB} . Find and graph point E , the midpoint of \overline{BC} . Then draw in \overline{DE} .

$D(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ and $E(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

17.

\overline{DE} is also known as a _____ of $\triangle ABC$.

18. What properties are true of a triangle's midsegment?

19. Find m_{DE} .

$m_{DE} = \underline{\hspace{2cm}}$

20. Without actually finding it, what would be m_{AC} ? How do you know this?

$m_{AC} = \underline{\hspace{2cm}}$ because...

21. Find the equation of the line containing \overline{DE} in standard form.

$\underline{\hspace{1cm}}x + \underline{\hspace{1cm}}y = \underline{\hspace{1cm}}$

22. Find DE . (simplified radical form)

$DE = \underline{\hspace{2cm}}$

23. Without actually finding it, what would be AC ? How do you know this?

$AC = \underline{\hspace{2cm}}$ because...