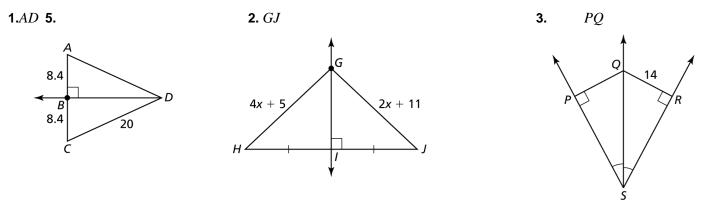
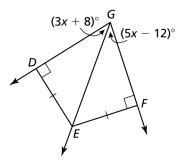
## **CHAPTER 6 STUDY GUIDE**

In Exercises 1-4, find the indicated measure. Explain your reasoning.



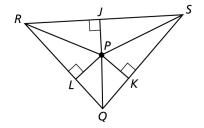
**4.***m∠DGF* 



5.) Find the coordinates of the circumcenter of the triangle with the given vertices. J(6, 0), K(0, 0), L(0, 4)

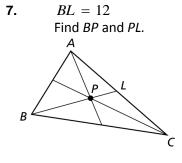


6. PJ = 4x - 8, PL = x + 7Find *PK*.



In Exercises 7-8, point *P* is the centroid of triangle ABC. Use the given information to find the indicated measures.

8.



CP = 16Find *PL* and *CL*.

9) Find the coordinates of the centroid:

Q(-2, 6), R(4, 0), S(10, 6)

## In Exercises 10-14, use the graph of triangle ABC.

- **10.** In triangle ABC. show that the midsegment  $\overline{ED}$  is parallel to  $\overline{BC}$  and that  $ED = \frac{1}{2}BC$ .
- **11.** Find the coordinates of the endpoints of midsegment  $\overline{EF}$ , which is opposite  $\overline{AC}$ .
- **12.** Show that  $\overline{EF}$  is parallel to  $\overline{AC}$  and that  $EF = \frac{1}{2}AC$ .
- 13. State the coordinates of the endpoints of midsegment DF.
- **14.** Show that  $\overline{DF}$  is parallel to  $\overline{AB}$  and  $DF = \frac{1}{2}AB$ .

In Exercises 15-17, use triangle QRS, where A, B, and C are the midpoints of the sides.

8x

15. When AB = 16, what is QS?

30

18

18.

16

М

**22.** 15, 37, 53

- **16.** When CA = 3x 1 and SR = 5x + 4, what is **CA**?
- **17.** When QR = 5x + 2 and CB = 2x + 5, what is *AR*?

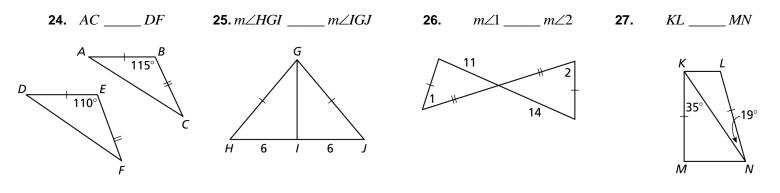
19.

# 18-19, list the angles from smallest to largest.

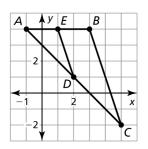
t to largest. # 20-21, list the sides from shortest to longest. 25x = E E 20. A 21. 21.

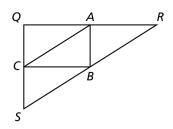


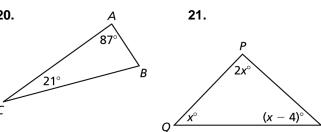
In Exercises 22-23, is it possible to construct a triangle with the given side lengths? Explain.



ANSWER KEY:1. 20 **2.** *GJ* 17 **3.** PQ 14 **4.** *m∠DGF* 76 **5.** (3,2) **6.** 12 **7.** *BP*=8 and *PL*=4 8. Find *PL*=8 and *CL*=24 **9.** (4,4) 10. Slope of BC=-3 and EC=-3 $ED = \sqrt{10}$ BC= $2\sqrt{10}$ **12.** Slope of EF=-1 and AC= -1 EF= $3\sqrt{2}$  AC= $6\sqrt{2}$ 11. E(1,4) F(4,1)**13.** D(2,1) F(4,1) **14.** Slope of BC=0 and EC= 0 DF=2 AB=4 **15.** 32 16. 17 **17.** 21 20. AB,AC,BC21. QP,PR,QR 22. No 18. N,L,M 19. F=D, E 23. Yes  $m \angle HGI \_ m \angle IGJ =$ AC >DF 25. 27. 24. 26. 1 < 2 KL < MN







**23.** 9, 16, 8

5*x*