

Draw and label a diagram. List what is given and what is to be proved. Then write a two-column proof of the theorem.

- B 11. Theorem 5-4      12. Theorem 5-5      13. Theorem 5-7

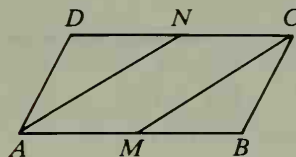
For Exercises 14–18 write paragraph proofs.

14. Given:  $\square ABCD$ ;  $M$  and  $N$  are the midpoints of  $\overline{AB}$  and  $\overline{DC}$ .

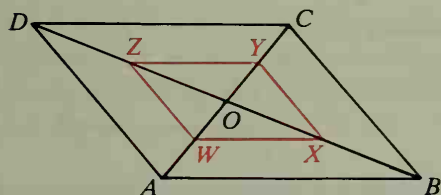
Prove:  $AMCN$  is a  $\square$ .

15. Given:  $\square ABCD$ ;  $\overline{AN}$  bisects  $\angle DAB$ ;  $\overline{CM}$  bisects  $\angle BCD$ .

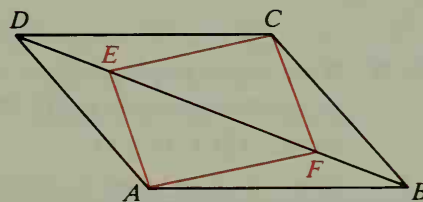
Prove:  $AMCN$  is a  $\square$ .



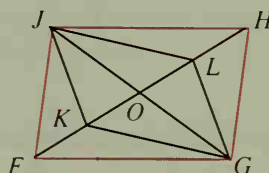
16. Given:  $\square ABCD$ ;  $W$ ,  $X$ ,  $Y$ ,  $Z$  are midpoints of  $\overline{AO}$ ,  $\overline{BO}$ ,  $\overline{CO}$ , and  $\overline{DO}$ .  
Prove:  $WXYZ$  is a  $\square$ .



17. Given:  $\square ABCD$ ;  $DE = BF$   
Prove:  $AFCE$  is a  $\square$ .

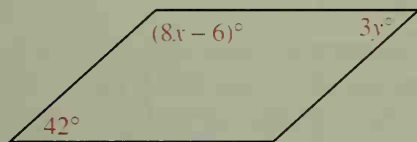


18. Given:  $\square KGLJ$ ;  $FK = HL$   
Prove:  $FGHJ$  is a  $\square$ .

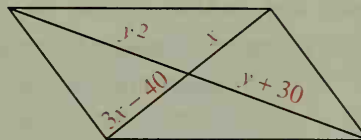


What values must  $x$  and  $y$  have to make the quadrilateral a parallelogram?

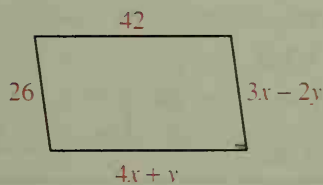
19.



20.



21.



22.

