

## 1-4.5 Midpoints Extra (Honors)

Name \_\_\_\_\_

For all of the following problems, simply find the value of  $n$ .

- \_\_\_\_\_ 1. Let B be the midpoint of  $\overline{AC}$  with  $AB = 2n + 1$  and  $AC = 22$ .
- \_\_\_\_\_ 2. Let N be the midpoint of  $\overline{AD}$  with  $AD = 10$  and  $AN = 3n - 1$ .
- \_\_\_\_\_ 3. Let X be the midpoint of  $\overline{BY}$  with  $BX = 3n - 5$  and  $BY = 14$ .
- \_\_\_\_\_ 4. Let B be the midpoint of  $\overline{AC}$  with  $AB = 3$  and  $AC = 8n - 10$ .
- \_\_\_\_\_ 5. Let C be the midpoint of  $\overline{AY}$  with  $AC = 11$  and  $AY = 6n - 2$ .
- \_\_\_\_\_ 6. Let B be the midpoint of  $\overline{AX}$  with  $BX = 2n + 7$  and  $AX = 18$ .
- \_\_\_\_\_ 7. Let C be the midpoint of  $\overline{AY}$  with  $AC = 16$  and  $AY = 10n + 2$ .
- \_\_\_\_\_ 8. Let B be the midpoint of  $\overline{AC}$  with  $AB = 9$  and  $AC = 4n + 6$ .
- \_\_\_\_\_ 9. Let B be the midpoint of  $\overline{AC}$  with  $AB = 2n + 1$  and  $AC = 6n - 4$ .
- \_\_\_\_\_ 10. Let T be the midpoint of  $\overline{NS}$  with  $NT = 3n + 1$  and  $TS = 2n + 4$ .
- \_\_\_\_\_ 11. Let C be the midpoint of  $\overline{BN}$  with  $BC = 4$  and  $CN = 3n - 11$ .
- \_\_\_\_\_ 12. On  $\overline{NC}$ , B is the midpoint with  $NB = 2n - 1$  and  $NC = 22$ .
- \_\_\_\_\_ 13. On  $\overline{AC}$ , B is the midpoint with  $AB = 2n + 3$  and  $BC = 5n - 9$ .
- \_\_\_\_\_ 14. Let N be the midpoint of  $\overline{AD}$  with  $AD = 8n - 10$  and  $AN = 3n - 1$ .
- \_\_\_\_\_ 15. Let B be the midpoint of  $\overline{VC}$  with  $VB = 2n + 3$  and  $VC = 6n - 2$ .
- \_\_\_\_\_ 16. On  $\overline{AX}$ , N is the midpoint with  $AN = 8$  and  $AX = 4n - 12$ .
- \_\_\_\_\_ 17. Let C be the midpoint of  $\overline{BN}$  with  $BN = 8n - 1$  and  $BC = 2n + 5$ .