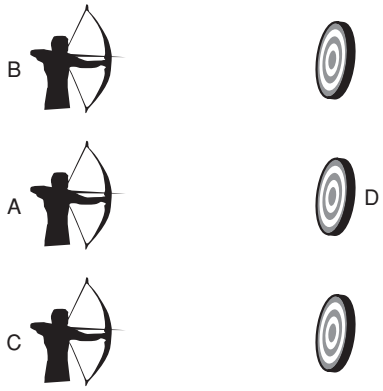
Name _____ Date _____ Class _____

LESSON 5-1

Practice B

Perpendicular and Angle Bisectors

Diana is in an archery competition. She stands at *A*, and the target is at *D*. Her competitors stand at *B* and *C*.



1. The distance from each of her competitors to her target is equal. Explain whether the flight path of Diana's arrow, $\overline{AD}$, must be a perpendicular bisector of $\overline{BC}$.

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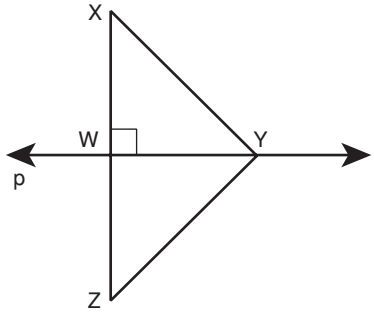
_____

Use the figure for Exercises 2–5.



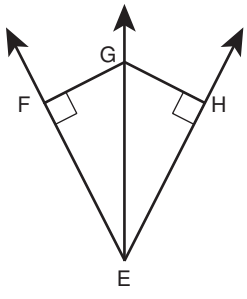
2. Given that line *p* is the perpendicular bisector of $\overline{XZ}$ and $XY = 15.5$, find ZY. _____

3. Given that $XZ = 38$, $YX = 27$, and $YZ = 27$, find ZW. _____

4. Given that line *p* is the perpendicular bisector of $\overline{XZ}$; $XY = 4n$, and $YZ = 14$, find n. _____

5. Given that $XY = ZY$, $WX = 6x - 1$, and $XZ = 10x + 16$, find ZW. _____

Use the figure for Exercises 6–9.



6. Given that $FG = HG$ and $m\angle FEH = 55°$, find $m\angle GEH$. _____

7. Given that $\overrightarrow{EG}$ bisects $\angle FEH$ and $GF = \sqrt{2}$, find GH.

_____

8. Given that $\angle FEG \cong \angle GEH$, $FG = 10z - 30$, and $HG = 7z + 6$, find FG. _____

9. Given that $GF = GH$, $m\angle GEF = \frac{8}{3}a°$, and $m\angle GEH = 24°$, find a. _____

Write an equation in point-slope form for the perpendicular bisector of the segment with the given endpoints.

10. $L(4, 0)$, $M(-2, 3)$

_____

11. $T(0, -3)$, $U(0, 1)$

_____

12. $A(-1, 6)$, $B(-3, -4)$

_____