

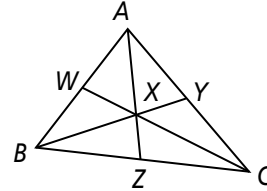
Practice

Medians and Altitudes

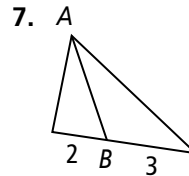
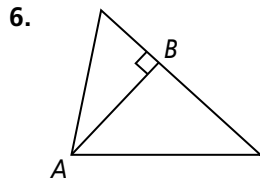
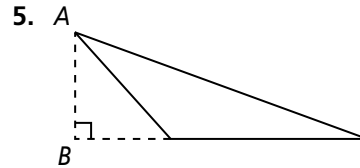
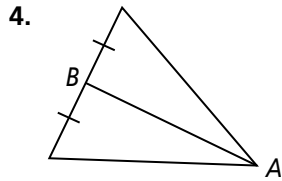
4.4

In $\triangle ABC$, X is the centroid.

1. If $CW = 15$, find CX and XW .
2. If $BX = 8$, find BY and XY .
3. If $XZ = 3$, find AX and AZ .

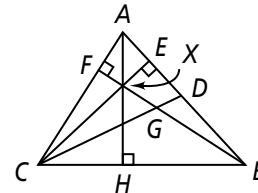
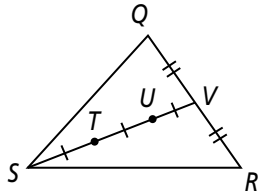


Is \overline{AB} a median, an altitude, or neither? Explain.



Coordinate Geometry Find the orthocenter of $\triangle ABC$.

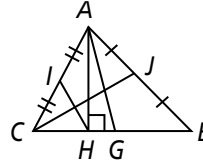
8. $A(2, 0), B(2, 4), C(6, 0)$
9. $A(1, 1), B(3, 4), C(6, 1)$
10. Name the centroid.
11. Name the orthocenter.



Draw a triangle that fits the given description. Then construct the centroid and the orthocenter.

12. equilateral $\triangle CDE$
13. acute isosceles $\triangle XYZ$

14. a median in $\triangle ABC$



15. an altitude for $\triangle ABC$

16. a median in $\triangle AHC$

17. an altitude for $\triangle AHB$

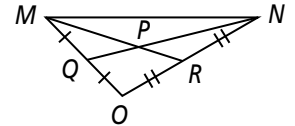
18. an altitude for $\triangle AHG$

19. $A(0, 0)$, $B(0, -2)$, $C(-3, 0)$. Find the orthocenter of $\triangle ABC$.

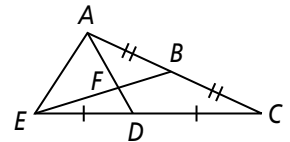
20. Cut a large isosceles triangle out of paper. Paper-fold to construct the medians and the altitudes. How are the altitude to the base and

ter?

22. P is the centroid of $\triangle MNO$. $MP = 14x + 8y$. Write expressions to represent PR and MR .



23. F is the centroid of $\triangle ACE$. $AD = 15x^2 + 3y$. Write expressions to represent AF and FD .



24. Use coordinate geometry to prove the following statement.

Given: $\triangle ABC$; $A(c, d)$, $B(c, e)$, $C(f, e)$

angle.