

- ① Define "Altitude" of a triangle.
 - ② Define "height" of a triangle.
 - ③ What is the name of the point where the 3 Altitudes of a triangle intersect?
-

• Compass & straight-edge.
(Euclid's Tools)

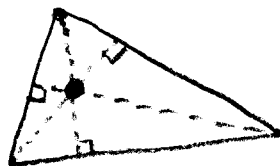
Ans

① ALTITUDE A LINE segment from A vertex perpendicular to the opposite side. (EX)



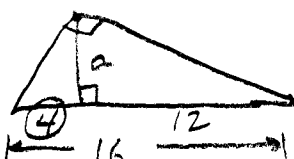
② the measure of an altitude

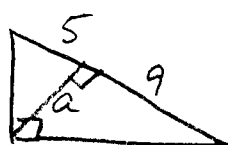
③ orthocenter (EX)

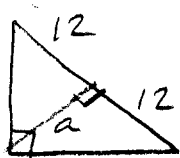


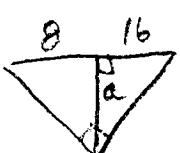
Homework Review Pg 345-346 #8, 9, 21-26

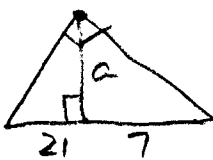
⑧  $\frac{2}{a} = \frac{a}{6} \Rightarrow a^2 = 12$
 $a = \sqrt{12} = \boxed{2\sqrt{3}}$

⑨  $\frac{4}{a} = \frac{a}{12} \Rightarrow a^2 = 48$
 $a = \sqrt{48} = \boxed{4\sqrt{3}}$

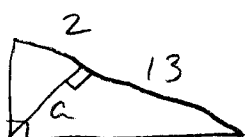
⑪  $\frac{5}{a} = \frac{a}{9} \Rightarrow a^2 = 45$
 $a = \sqrt{45} = \boxed{3\sqrt{5}}$

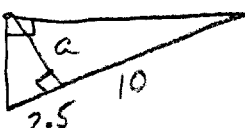
⑫  $\frac{12}{a} = \frac{a}{12} \Rightarrow a^2 = 144$
 $a = \sqrt{144} = \boxed{12}$

⑬  $\frac{8}{a} = \frac{a}{16} \Rightarrow a^2 = 8 \cdot 16$
 $a = \sqrt{8} \sqrt{16}$
 $a = 4\sqrt{8} = \boxed{8\sqrt{2}}$

⑭  $\frac{21}{a} = \frac{a}{7} \Rightarrow a^2 = 147$
 $a = \sqrt{147}$
 $a = \boxed{7\sqrt{3}}$

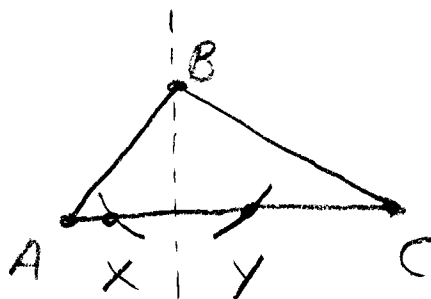
$\begin{array}{r} 147 \\ 3 \overline{) 147} \\ \underline{3} \\ 49 \end{array}$

⑮  $\frac{2}{a} = \frac{a}{13} \Rightarrow a^2 = 26$
 $a = \sqrt{26}$

⑯  $\frac{2.5}{a} = \frac{a}{10} \Rightarrow a^2 = 25$
 $a = \sqrt{25} = \boxed{5}$

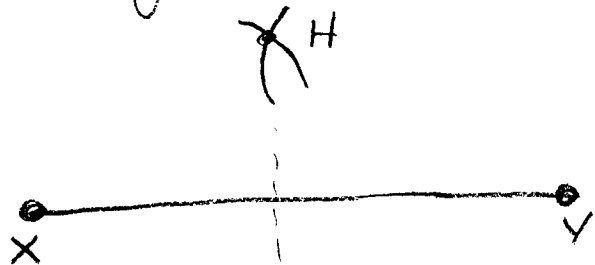
Construction: Altitudes of a $\triangle$
(Pg 237)

Given $\triangle ABC$



Place point of compass at B and draw 2 arcs, label points X, Y

Construct a Perpendicular Bisector
of line segment $\overline{XY}$.



Adjust compass to $>$ than midpoint of XY
and draw arc above XY. Move point to Y
and draw intersecting arc. Construct Altitude
(Label H)

from H to B. Note, this line will bisect $\overline{XY}$
and meet AC
at 90°

