

BE - Geometry || THURSDAY 10-28-10

- 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)

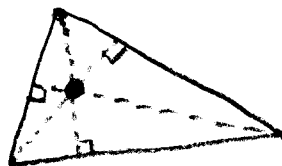
ANS

① ALTITUDE A LINE SEGMENT FROM A VERTEX perpendicular to the opposite side. (EX)




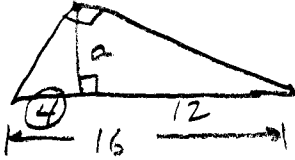
② the measure of an altitude

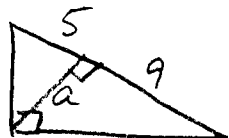
③ orthocenter (EX)

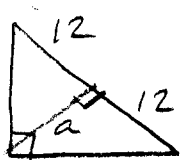


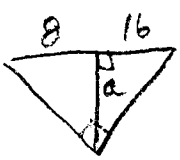
Homework Review Pg 345-346 #8, 9, 21-26

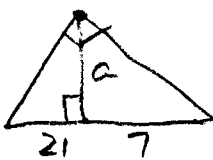
⑧  $\frac{2}{a} = \frac{a}{6} \Rightarrow a^2 = 12$
 $a = \sqrt{12} = \boxed{2\sqrt{3}}$

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

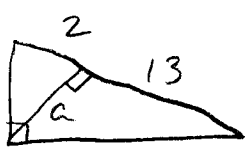
⑪  $\frac{5}{a} = \frac{a}{9} \Rightarrow a^2 = 45$
 $a = \sqrt{45} = \boxed{3\sqrt{5}}$

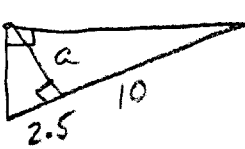
⑫  $\frac{12}{a} = \frac{a}{12} \Rightarrow a^2 = 144$
 $a = \sqrt{144} = \boxed{12}$

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

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

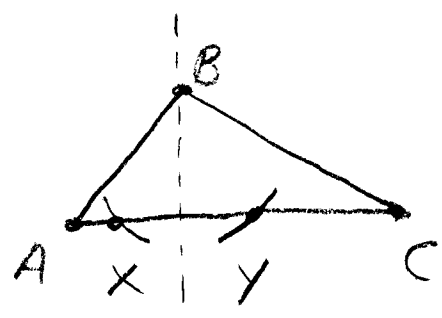
147
 1 47
 3 49

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

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

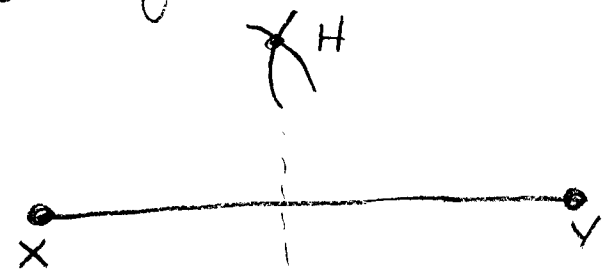
CONSTRUCTION: ALTITUDES OF A \triangle (Pg 237)

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° .

