

line possible. Describe an isosceles triangle $A F G = \frac{1}{2}$ triangle $A C B$, having a common $\angle C A B$, by the VI. 15, and the base $F G$ is the line required.

Bisect $A B$ in E ; then

$A E C = \frac{1}{2}$
 $ACB. \sqrt{12 \times 9}$



$= 10.392304 = A G$ or $A F$. Area of triangle $A B C = 56.56854$, hence $A F G = 28.28427$. Denote $\frac{1}{2} F G$ by x , then we have the following equation; $\sqrt{a^2 - x^2} \times x = s = 28.28427$: this equation gives $x = 2.828427 \times 2 = 5.656854 = F G$, the required minimum line.

137. A, B, and C in partnership gain \$1800. If we take C's time from the sum of A's and B's, 7 times the remainder will be equal to 11 times the sum of A's and C's diminished by B's. C's stock is to the sum of A's and B's stocks; as A's time is to 6 times B's time; the sum of all their times divided by the sum of B's and C's minus A's, equals 19; and 3 times the difference between the stocks of A and B, is equal to twice C's stock. Required each person's gain, by simple proportion.