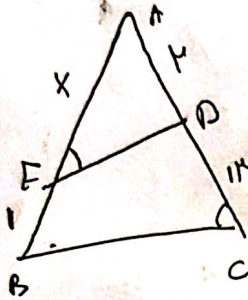


$$BE^2 = (\frac{\sqrt{2}}{2})^2 + (\frac{1}{2})^2 \rightarrow BE = \sqrt{10} \cdot \frac{1}{2} \rightarrow z + \frac{1}{2} = \sqrt{10} \cdot \frac{1}{2} \rightarrow z = \frac{\sqrt{10}-1}{2}$$

$$(AC)^2 = (\frac{\sqrt{2}}{2})^2 + (\frac{1}{2})^2 \rightarrow AC = \sqrt{10} \cdot \frac{1}{2} \rightarrow y = \sqrt{10} \cdot \frac{1}{2}$$

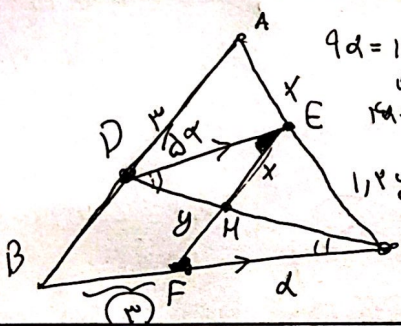
$$\frac{EF}{AF} = \frac{z}{y} = \frac{\sqrt{10}-1}{\sqrt{10}}$$



$$\frac{1}{x+1} = \frac{x}{12} \rightarrow 12 = x^2 + x$$

$$x^2 + x - 12 = 0$$

$$(x+4)(x-3) = 0$$

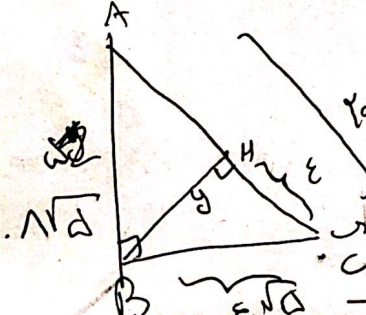


$$9d = 12d + 2d \rightarrow BF = 12$$

$$12y = 2x \rightarrow x = 6y$$

$$\frac{x}{y} = \frac{DE}{FC} \rightarrow \frac{6y}{y} = \frac{DE}{FC} \rightarrow DE = 6FC$$

$$\frac{AE}{AC} = \frac{AD}{AB} = \frac{DE}{BC} \rightarrow \frac{12}{12} = \frac{DE}{BC} \rightarrow BC = 12DE$$



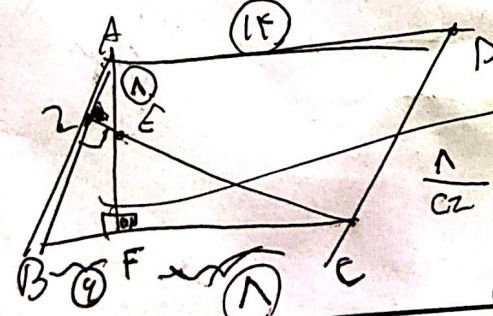
$$DHE \sim CHF \rightarrow \frac{EH}{FH} = \frac{DH}{CH} = \frac{DE}{CF} \rightarrow \frac{4}{12} = \frac{DE}{CF} \rightarrow CF = 3DE$$

$$BC = BF + CF \rightarrow DE = \frac{1}{3} BC = \frac{1}{3} \times \frac{9\sqrt{2}}{2} = \frac{3\sqrt{2}}{2}$$

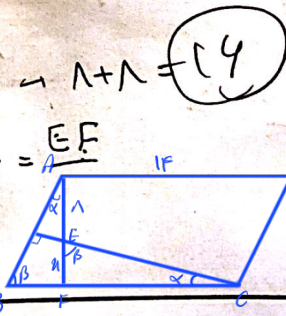
$$\frac{AB}{BH} = \frac{BC}{F} = \frac{AC}{BC}$$

$$BC^2 = 12$$

$$\sqrt{12} = BC$$



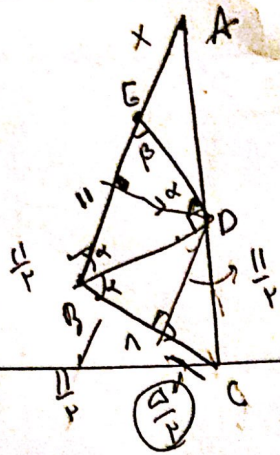
$$\frac{1}{12} = \frac{CE}{12} = \frac{EF}{12}$$



$$\frac{1}{4} = \frac{1}{12} \rightarrow 2 = 12$$

$$AF = 12 + 1 = 13$$

$$\frac{ZE}{EF} = \frac{12}{12} = \frac{12}{12}$$

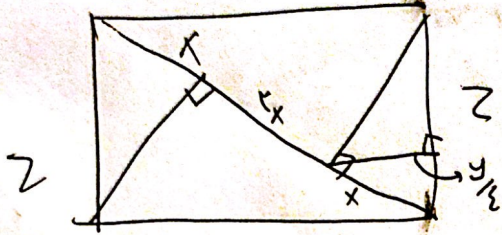


$$AC = 4/9$$

$$\frac{\frac{11}{x}}{x+11} = \frac{\frac{11}{x}}{1}$$

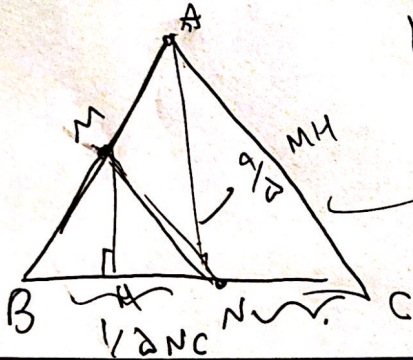
$$\Delta x = \Delta x + \Delta x$$

57



$$\frac{y \cdot x \cdot z}{\frac{1}{x} y \cdot x \cdot z}$$

10



$$BN = NC$$

$$BN = NC$$

$$S_{ABC} = S_{BMN}$$

$$\frac{BM}{BM+MA} = \frac{1}{4} \rightarrow BM = \frac{1}{4} BM + \frac{3}{4} MA$$

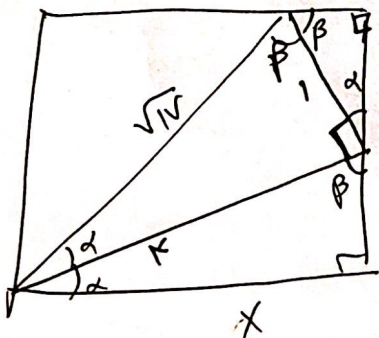
$$\frac{1}{4} \Delta NC \cdot AH = \frac{1}{4} \Delta NC \cdot MH$$

$$\frac{1}{4} \cdot AH = \frac{1}{4} \cdot MH$$

$$\frac{BM}{AM} = \frac{1}{3}$$

$$BM = \frac{1}{4} MA$$

9

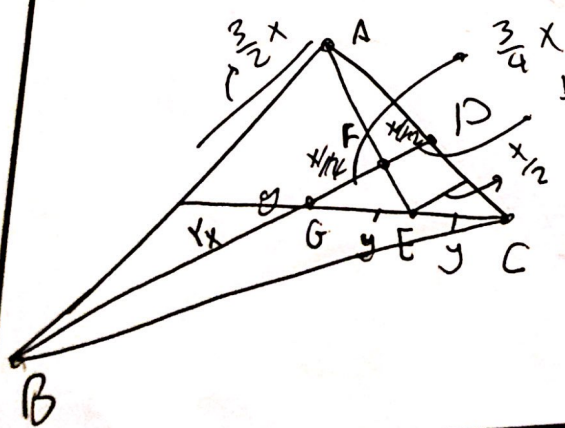


$$\frac{x}{x} = \frac{\sqrt{14}}{x}$$

$$x = \frac{14}{\sqrt{14}}$$

$$\frac{14 \times 14}{14} = 15.05$$

9



$$\frac{BD}{PD} \rightarrow \frac{1/4 x}{1/4 x} = 12$$

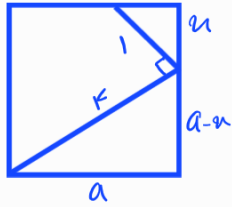
9

$$\begin{aligned} AB^r &= BH \times BC \\ AC^r &= CH \times BC \end{aligned} \rightarrow \frac{AB}{AC} = \sqrt{\frac{BH}{CH}} = \frac{1}{r} \quad (8)$$

$$ABD \rightarrow h^r = u \times r u \rightarrow h = \sqrt{r} u$$

$$S_{\square} = r \times S_{ABD} = \frac{r \times h \times r u}{r} = \sqrt{r} u \times r u = r \sqrt{r} u^r \quad (10)$$

$$S_{\triangle} = \frac{h \times u}{r} = \frac{\sqrt{r} u^r}{r} \quad \frac{S_{\square}}{S_{\triangle}} = \wedge$$



$$\frac{y}{a-u} = \frac{u}{a} = \frac{1}{r} \rightarrow \begin{cases} a - r u \\ a - u = r y \end{cases} \quad (9)$$

$$r u - u = r y \rightarrow u = \frac{r y}{r-1}$$

$$r = (a-u)^r + a^r \rightarrow u = \frac{r}{a}, a = \frac{r y}{a}$$

$$S_{\square} = a^r = \frac{r y^r}{r-1}$$

$$BG = r y, GD = y \rightarrow BD = r y \quad (11)$$

$$\begin{cases} GF = \frac{r y}{r-1} \\ FD = \frac{1}{r-1} y \end{cases} \rightarrow \frac{BD}{FD} = \frac{r y}{\frac{1}{r-1} y} = r$$