

Viana

subject :

Year : Month : Date :

$$BC = \sqrt{3}k$$

عرفان حقیقی یا درصدی A

$$\frac{AE}{BC} = \frac{k}{\sqrt{3}k} = \frac{1}{\sqrt{3}}$$

(1)

$$AE + ED = k + \sqrt{3}k \Rightarrow BC = \sqrt{3}k$$

$$AE = k$$

$$\triangle FAE \sim \triangle FCB \Rightarrow \frac{EF}{FB} = \frac{AF}{FC} = \frac{AE}{BC}$$

$$\frac{AF}{FC} = \frac{1}{\sqrt{3}} \Rightarrow FC = \sqrt{3}AF$$

$$AC = AF + FC$$

$$AF + \sqrt{3}AF = AC = \sqrt{3}AF$$

$$\Rightarrow \frac{EF}{FB} = \frac{1}{\sqrt{3}} \quad \text{نسبت تساوی}$$

(استفاده از دستگاه مختصات)

$$A = (0, 90) \quad B = (0, 93) \quad E = (1, 0) \quad C = (3, 3)$$

مطلوبه F

$$F = (0, 90, 93)$$

$$y = -\sqrt{3}x + 3$$

معادله AC

$$AF = \sqrt{(0-0)^2 + (90-93)^2} = 0, 3 \sqrt{3}$$

$$EF = \sqrt{(1-0)^2 + (0-90)^2} = \sqrt{0, 42} \sqrt{3}$$

$$\frac{EF}{AF} = \frac{\sqrt{3}}{\sqrt{3}}$$

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$$E = C \left\{ \begin{array}{l} \Rightarrow AED \sim ACB \Rightarrow \frac{n}{n+1} = \frac{r}{8W} \end{array} \right.$$

$$17m = r \Rightarrow n = \frac{17r}{r}$$

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

$$AC = AE + EC = n + 17r \quad n = \frac{r}{a}$$

$$AC = 17r + 17r = 34r \Rightarrow \frac{DE}{BC} = \frac{AE}{AC} = \frac{17r}{34r} = \frac{1}{2}$$

$$\Rightarrow BC = 2DE \quad \frac{DE}{FC} = \frac{E+1}{1-F} = n \Rightarrow \frac{DE}{FC} = \frac{2}{1}$$

$$\frac{DE}{FC} = \frac{2}{1} \Rightarrow FC = \frac{1}{2} DE \quad BC = BF + FC$$

$$BC = 2DE \quad BC = r + \frac{1}{2} DE \Rightarrow 2DE = r + \frac{1}{2} DE$$

$$2DE - \frac{1}{2} DE = r \Rightarrow \frac{3}{2} DE = r \Rightarrow DE = \frac{2}{3} r$$

$$BC = 2 \times DE \Rightarrow BC = \frac{4}{3} r$$

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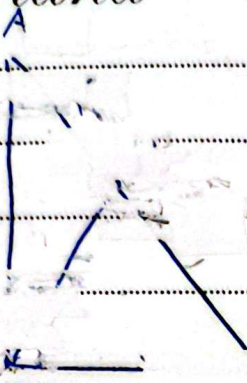
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$$AB^2 = BD \times BC$$

$$AC^2 = CD \times BC$$

$$AB^2 = r \times r \Rightarrow AB = r\sqrt{2}$$

$$AC^2 = 14 \times r \Rightarrow AC = 14\sqrt{r}$$

$$\frac{AC}{AB} = \frac{14\sqrt{r}}{r\sqrt{2}} = r$$

$$\left. \begin{array}{l} F = E = 9 \\ B \text{ ستر} \end{array} \right\} \quad ABF \sim CBE \Rightarrow \frac{BF}{AB} = \frac{BE}{CB}$$

$$BE = AB - AE = AB - 1 \Rightarrow \frac{4}{AB} = \frac{AB - 1}{14}$$

$$AB - 1 \times AB = 14 \Rightarrow AB^2 - 14AB - 14 = 0 \Rightarrow AB = 14$$

$$AF + BF = AB \Rightarrow AF = 14 - 14 = 0$$

$$AF = 0$$

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$$\frac{AD}{DC} = \frac{AB}{BC} \Rightarrow \frac{AD}{BC} = \frac{11}{1} \Rightarrow AD = 11k$$

$$DC = 1k$$

$$ED \parallel BC \Rightarrow \triangle AED \sim \triangle ABC \Rightarrow \frac{AE}{AB} = \frac{AD}{AC}$$

$$AC = AD + DC \Rightarrow 11k + 1k = 12k$$

$$\frac{AE}{11} = \frac{11k}{12k} \Rightarrow AE = \frac{121}{12}$$

$$BM^2 = AM \times MC$$

$$BM^2 = n \times (r_n + n) = n \times r_n = r_n^2 \quad BM = n\sqrt{r}$$

$$S_{min} = \frac{1}{r} n \times n\sqrt{r} = \frac{n^2\sqrt{r}}{r}$$

$$S_{ABC} = \frac{1}{r} (r_n) (n\sqrt{r}) = r_n\sqrt{r} \Rightarrow r \times S_{ABC} = r_n^2\sqrt{r}$$

$$\frac{r_n^2\sqrt{r}}{\frac{n^2\sqrt{r}}{r}} = r \times r = 1$$

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$$\frac{BN}{NC} = \frac{r}{r} \Rightarrow BN = rk \quad NC = rk \quad BC = 2rk$$

$$S_{ABC} = r \times S_{BMN} \quad / \quad S_{BMN} = \frac{1}{2} \times BM \times BN \times \sin(B)$$

$$S_{ABC} = \frac{1}{2} \times AB \times BC \times \sin(B)$$

$$\frac{S_{ABC}}{S_{BMN}} = r \Rightarrow \frac{AM \times BC}{BM \times BN} = r$$

$$\frac{AB}{BM} \times \frac{1}{r} = r \Rightarrow \frac{AB}{BM} = \frac{r}{1} \quad / \quad AB = AM + BM$$

$$\frac{AM + BM}{BM} = \frac{r}{1} \Rightarrow \frac{AM}{BM} + 1 = \frac{r}{1} \Rightarrow \frac{AM}{BM} = \frac{r}{1}$$

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

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$$a = r + l \Rightarrow a^2 = r^2 + l^2 \Rightarrow s = a^2 = r^2 + l^2 \quad (9)$$

$$s = 14 + 1 \Rightarrow s = 15$$

$$G \Rightarrow AG = rGD$$

د، نقطه AB و وسط BC است $BD = DC$

$$\frac{GE}{DC} = \frac{AG}{AD} = \frac{r}{s} \Rightarrow GE = F_c = \frac{r}{s} DC$$

$$BD = DC = FD + F_c \quad \text{چون } D \text{ وسط } BC \text{ است}$$

$$\frac{BD}{FD} = \frac{s}{1} = s$$

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