

17, 17.5

نویان بیانی

$$\left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2}\right) = \left(\frac{\sqrt{2}}{2}\right)^2 - \left(\frac{\sqrt{2}}{2}\right)^2 = \frac{2}{4} - \frac{2}{4} = \frac{1}{4} \quad (الف)$$

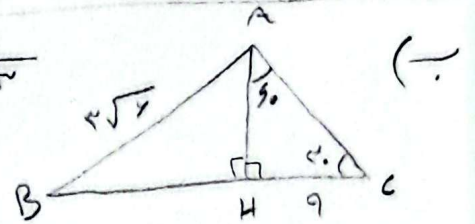
$$\frac{1 + \frac{1}{2}}{\frac{1}{2} + \frac{1}{2}} = \frac{2}{2} = 1 \quad (ب)$$

$$AH = \sin 45^\circ \times \sqrt{2} = \frac{\sqrt{2}}{2} \times \sqrt{2} = \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{2}{4} = \frac{1}{2} \quad (الف) (ب)$$

$$(\sqrt{2})^2 = \sqrt{2}^2 + HC^2 = 12 \quad HC^2 = 12 - 3 = 9 \quad HC = 3 \quad (ب)$$

$$\frac{\sqrt{2}}{2} \times AC = 9 \Rightarrow AC = \frac{9}{\frac{\sqrt{2}}{2}} = \frac{18}{\sqrt{2}} = \frac{18\sqrt{2}}{2} = 9\sqrt{2}$$

$$AH = \frac{1}{2} \times 9\sqrt{2} = \frac{9\sqrt{2}}{2}$$



$$9\sqrt{2} \times \sin B = 9\sqrt{2} \quad \hat{B} = 45^\circ \quad \text{دقت!}$$

$$\sin B = \frac{9\sqrt{2}}{9\sqrt{2}} = \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2} \quad (ب)$$

$$\frac{\sqrt{2}}{2} \times AD = 100\sqrt{2} \quad AD = 100 \quad \frac{1}{2} \times AC = 100\sqrt{2} \quad AC = 100\sqrt{2} \quad (الف) (ب)$$

$$BD = \frac{1}{2} \times 100 = 50 \quad BC = \frac{\sqrt{2}}{2} \times 100\sqrt{2} = 100$$

$$AC = BC - BD = 100 - 50 = 50 \quad (ب)$$

$$AC \times \frac{1}{2} = 2 \quad AC = 4 \quad BC = \frac{\sqrt{2}}{2} \times 4 = 2\sqrt{2}$$

$$CD^2 = 12 + 1 = 13 \quad CD = \sqrt{13} \quad \sin \alpha = \frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13} \quad (ب)$$

$$AC = x \quad CH = \frac{\sqrt{2}}{2} x \quad \frac{BH}{2} = \frac{\sqrt{2}}{2} x \times \frac{\sqrt{2}}{2} = \frac{1}{2} x \quad (الف) (ب) (ج)$$

$$BH = \frac{\sqrt{2}}{2} x \quad AB = \frac{\sqrt{2}}{2} x + \frac{\sqrt{2}}{2} x = \sqrt{2} x \quad \frac{AC}{AB} = \frac{x}{\sqrt{2} x} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

سوال بنیت $\frac{AB}{AC}$ روی عوار

$$S(\triangle AEB) = \frac{1}{2} \sin B \times 2 \times 2 \quad S(\triangle BCD) = \frac{1}{2} \sin B \times 2 \times 2$$

$$\frac{S(\triangle AEB)}{S(\triangle BCD)} = \frac{2 \sin B}{2 \sin B} = 1 \quad (ب) (ج)$$

$$\frac{\sqrt{5}}{x} \times 2 \times \frac{1}{x} = \boxed{\frac{2\sqrt{5}}{x^2}} \checkmark$$

(2) (9) (1)

$$\frac{1}{x} \times 2 \times \frac{1}{x} \times \frac{\sqrt{5}}{x} = \boxed{\frac{2\sqrt{5}}{x^3}} \checkmark$$

$$r^2 + \varepsilon^2 = \varepsilon + 19 = r_0 \quad \sqrt{r_0} = \sqrt{19}$$

$$\cos \theta = \frac{\varepsilon}{r_0} = \frac{r \sqrt{a}}{r_0 a} = \boxed{\frac{r \sqrt{a}}{r_0 a}} \checkmark$$

(2) (1)

$$1A_0 - 1d = V_0$$

$$AO = r, a$$

$$V_0 - \varepsilon a = r_0$$

$$\frac{\sqrt{5}}{r} \times BA = \frac{1}{r}$$

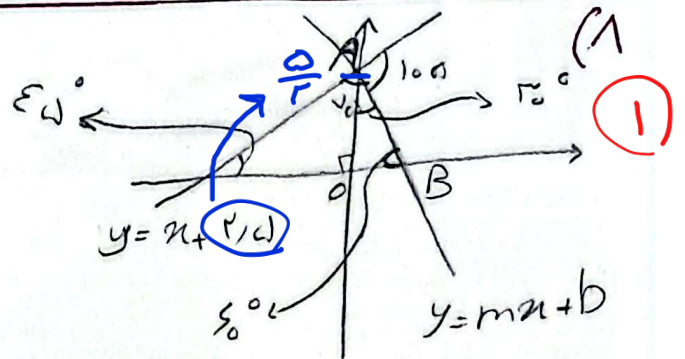
$$BA = a\sqrt{5}$$

$$y = -\sqrt{3}x + b \quad \frac{x=0}{y=\frac{a}{r}} \Rightarrow \boxed{b = \frac{a}{r}} \quad BO = \frac{a\sqrt{5}}{r} \Rightarrow b = \frac{a\sqrt{5}}{r}$$

$$m = \frac{\frac{\sqrt{5}}{r}}{\frac{1}{r}} = \boxed{-\sqrt{3}}$$

ثابت حفظ منقبة

$$mb = \frac{\sqrt{5}}{r} \times \frac{a\sqrt{5}}{r} = \boxed{\frac{5a}{r^2}}$$



$$f\left(\frac{5\pi}{9}\right) = \cos\left(\pi + \frac{5\pi}{9}\right) + \sin\left(\frac{\pi}{9} - \frac{5\pi}{9}\right) - \tan\left(\frac{5\pi}{9} + \frac{5\pi}{9}\right)$$

$$-\cos \frac{5\pi}{9} + \cos \frac{4\pi}{9} + \cot \frac{5\pi}{9} = \frac{\sqrt{5}}{r} - \frac{\sqrt{5}}{r} + \sqrt{5} = \boxed{-\sqrt{3}}$$

(1,5) (1)

$$\frac{\cos x - \sin x}{-\cos x + \sin x} = \boxed{-1}$$

ربع دوم
Sin منقبة!