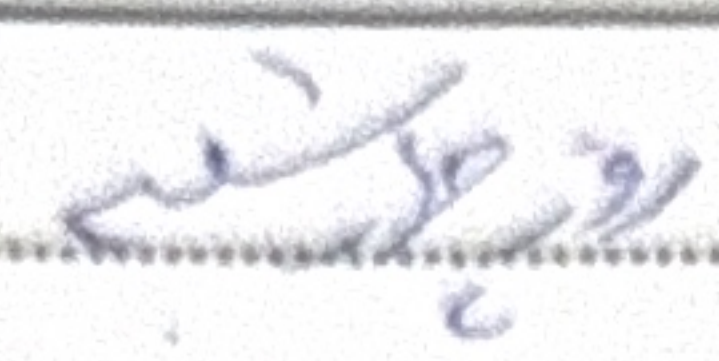


۱۹۷۵

نام و نام خانوادگی عادل پاسخنامه تشریحی تکلیف شماره ۱.۸. کلاس 

$$\tan 135^\circ + \sin 225^\circ + \cos 225^\circ = -1 - \sqrt{2}$$

$$\text{الف} \quad -\tan \frac{\pi}{4} + (-\sin \frac{\pi}{4})(-\cos \frac{\pi}{4}) = -1(-\frac{\sqrt{2}}{2}) = \frac{\sqrt{2}}{2}$$

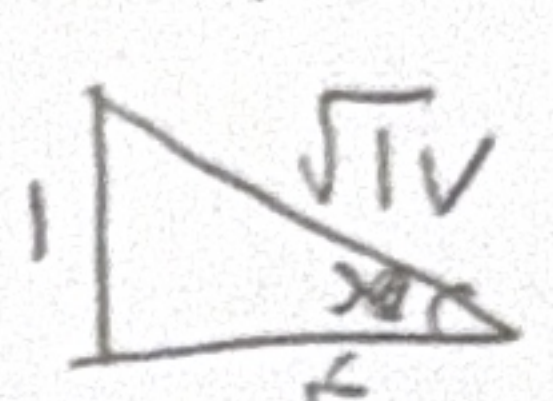
$$\text{ب} \quad (-\tan \frac{\pi}{4})(-\sin \frac{\pi}{4}) + (-\cos \frac{\pi}{4}) = (-\frac{\sqrt{2}}{2})(-\frac{\sqrt{2}}{2}) + (-\frac{1}{2}) = 0$$

$$\tan 150^\circ + \sin 200^\circ + \cos 240^\circ = \frac{-\sqrt{3}}{3} - \frac{\sqrt{3}}{2} - \frac{1}{2} = \frac{-2\sqrt{3} - \sqrt{3} - 3}{6} = \frac{-3\sqrt{3} - 3}{6}$$

$$\frac{3 \times \frac{4}{\sqrt{14}} - \frac{1}{\sqrt{14}}}{\frac{4}{\sqrt{14}} + \frac{1}{\sqrt{14}}} = \frac{\frac{11}{\sqrt{14}}}{\frac{5}{\sqrt{14}}} = \frac{11}{5}$$

$$\sin x = \frac{\text{مقابل}}{\text{وتر}} = \frac{1}{\sqrt{14}}$$

$$\cos x = \frac{\text{مجاور}}{\text{وتر}} = \frac{4}{\sqrt{14}}$$

$$\cot x = \frac{\text{مجاور}}{\text{مقابل}} = 4$$


$$\sin \alpha = 2 \cos \alpha \rightarrow \sin^2 \alpha = 4 \cos^2 \alpha$$

$$\sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow 4 \cos^2 \alpha + \cos^2 \alpha = 1 \rightarrow 5 \cos^2 \alpha = 1$$

$$\cos^2 \alpha = \frac{1}{5} \rightarrow \cos \alpha = \pm \frac{1}{\sqrt{5}}$$

$$\cos \alpha = \frac{\sqrt{98}}{-10} = \frac{-7\sqrt{2}}{10} \rightarrow \cos(135^\circ + \alpha) = \cos 135^\circ \cos \alpha - \sin 135^\circ \sin \alpha$$

$$= \left(-\frac{\sqrt{2}}{2} \times \frac{-7\sqrt{2}}{10}\right) - \left(\frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{10}\right) = \frac{7}{10} - \frac{1}{10} = \frac{6}{10}$$

$$\sin \alpha = \frac{1}{5\sqrt{2}} \rightarrow \sin(2\alpha + \alpha) = \sin 2\alpha \cos \alpha + \sin \alpha \cos 2\alpha$$

$$= \left(-\frac{\sqrt{2}}{2} \times \frac{1}{5\sqrt{2}}\right) + \left(\frac{\sqrt{2}}{2} \times \frac{1}{5\sqrt{2}}\right) = \frac{-1}{10} - \frac{1}{10} = \frac{-2}{10} = \frac{-1}{5}$$

$$\sin^2 x + \cos^2 x = 1 \rightarrow -\sin^2 x - \cos^2 x = -1$$

$$2 \sin^2 x - \cos^2 x - \sin^2 x - \cos^2 x = -1 + \frac{4}{3} = \frac{1}{3} = \sin^2 x$$

$$\cos^2 x = \frac{4}{3}$$

$$\tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{\frac{1}{3}}{\frac{4}{3}} = \frac{1}{4}$$

$$\frac{1}{r} \times 4 \times \sqrt{3} \times \sin \alpha = f, \alpha = \frac{q}{r} \rightarrow \sin \alpha = \frac{\frac{q}{r}}{\frac{4 \times \sqrt{3}}{r}} = \frac{q}{4 \times \sqrt{3}}$$

$$\frac{120}{40} = 3$$

$$120 - 40 = 80$$

$$40^\circ, 120^\circ \leftarrow \alpha$$

$$(1, \sqrt{3})$$

$$\omega f = 2x \times 3x \times \sin 120^\circ = 4x \times 3x \times \frac{1}{2} \rightarrow x^2 = 18 \rightarrow x = 3\sqrt{2}$$

$$2x = 6\sqrt{2} \quad 3x = 9\sqrt{2} \rightarrow \text{مساحت} = (9\sqrt{2} + 6\sqrt{2}) \times 2 = 30\sqrt{2}$$

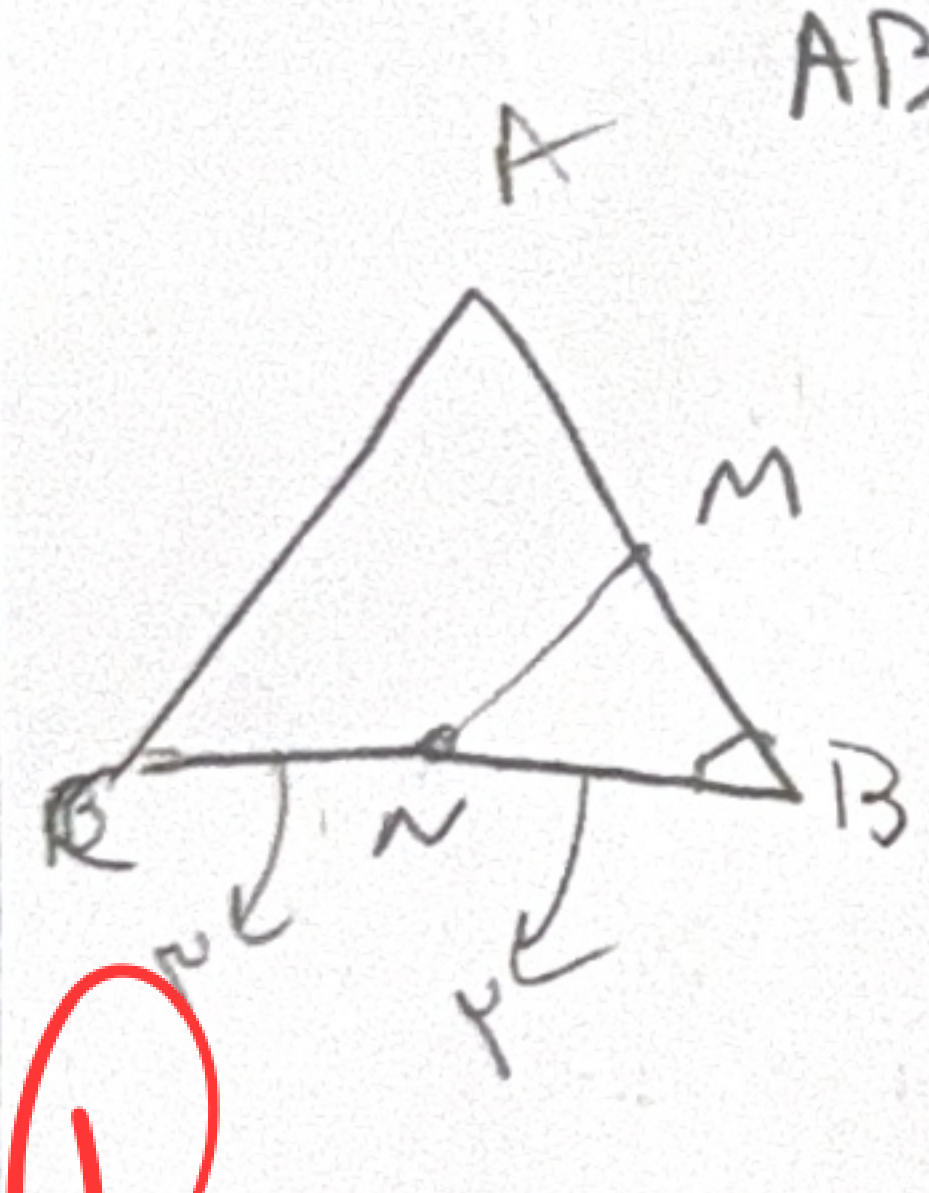
$$(2) \checkmark$$

$$AB(\text{مساحت}) = \frac{1}{r} \times \Delta \times V \times \sin A = 1, \Delta \sin A$$

$$ADE(\text{مساحت}) = \frac{1}{r} \times V \times f \times \sin A = 1, f \sin A$$

$$\frac{1, \Delta \sin A = 1, V \Delta}{A \text{ و } B} \rightarrow \sin A = \frac{1}{r} \rightarrow A = 30^\circ$$

$$\tan 30^\circ = \frac{\sqrt{3}}{3} \checkmark$$



$$AB(\text{مساحت}) = 3 \times BM(\text{مساحت})$$

$$\frac{1}{r} \times \Delta \times AB \times \sin B = 3 \times \frac{1}{r} \times \Delta \times BM \times \sin B$$

$$\omega AB = 3 BM$$

$$\omega BM + \omega AM = 3 BM \rightarrow \omega AM = 1 BM$$

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

$$\frac{BM}{AB} = \frac{\Delta}{3} \rightarrow \frac{BM}{BM+AM} = \frac{\Delta}{3}$$

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

$$BM = \Delta a$$

$$AM = \Delta b$$

$$\frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{|\cos \alpha|} \rightarrow \cos \alpha < 0 \rightarrow -\frac{1 + \sin \alpha}{\cos \alpha} = -\frac{1 + \sin \alpha}{\cos \alpha}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = -\tan \rightarrow \sin \alpha < 0 \rightarrow \text{ناحیه ۳}$$

$$\text{کمان } \alpha \text{ در ناحیه ۳ قرار دارد چون } 0 > \sin \alpha > 0$$