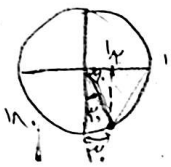
نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

۱

$$\frac{a\sin\frac{\Sigma\pi}{۳}+b\cos\frac{۷\pi}{۶}}{a\sin\frac{۱۱\pi}{۶}+b\cos\frac{\pi}{۳}}=\frac{-\frac{\sqrt{۳}}{۲}a-\frac{\sqrt{۳}}{۲}b}{-\frac{۱}{۲}a+\frac{۱}{۲}b}=-\frac{\sqrt{۳}}{۳}\tan\frac{۵\pi}{۶}\to\frac{\sin}{\cos}$$

$$\frac{-\frac{\sqrt{۳}}{۲}(a+b)}{\frac{۱}{۲}(b-a)}=-\sqrt{۳}\to a+b=b-a$$

۲



۳

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۵

$$-\frac{\pi}{۶}<x\leq\frac{۵\pi}{۶}\to-\frac{۱}{۲}<\sin x\leq ۱$$

$$-۵<m-۳\leq ۵\to\boxed{\frac{۱}{۲}<m\leq ۸}$$

$\tan 15^\circ = 0.25$

۶

$$\frac{+\cos 15^\circ - k\sin 15^\circ}{\sin(\frac{\pi}{2}+15^\circ) + k\cos(\frac{3\pi}{2}-15^\circ)} = 3 \quad \text{صورت و مخرج را بر } \cos 15^\circ \text{ تقسیم می‌کنیم}$$

$$\cos(\pi-15^\circ) + 2\sin(\pi+15^\circ)$$

$$-\cos 15^\circ \quad -2\sin 15^\circ$$

$$-1 \quad -0.5$$

$$\hookrightarrow \frac{1-k\times 0.25}{-1.5} = 3$$

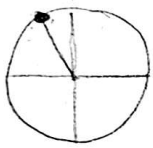
$$1 - k\times 0.25 = -4.5 \to +k\times 0.25 = +5.5 \to k = \frac{\frac{55}{10}}{\frac{25}{100}} = \frac{55}{10}\times\frac{100}{25} = 22$$

۷

$$\frac{(1-\cos x)^2}{1-\cos^2 x} = 2 \to (1-\cos x)^2 = 2\sin^2 x \to 1-\cos x = \sqrt{2}\sin x$$

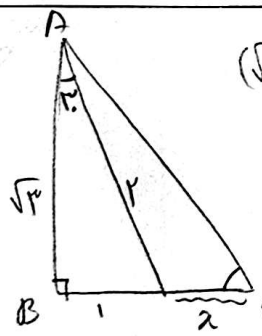
$$1-\cos^2 x = \sin^2 x$$

۸



$$\frac{\frac{4\pi}{9}}{\frac{2\pi}{10}} = \frac{\frac{4}{9}}{\frac{1}{5}} \to \frac{9\pi}{10}$$

۹



$$(\sqrt{3})^2 + (1+x)^2 = AC^2$$

$$\hookrightarrow 3 + x^2 + 2x + 1 = AC^2 \to x^2 + 2x + 4 = (AC)^2 \to AC = \sqrt{x^2+2x+4}$$

$$\tan C = \frac{\sqrt{3}}{(1+x)} = \sqrt{x^2+2x+4} \to 3 = t(t+1)$$

$$(x^2+2x+1) = t$$

$$t^2 - t - 12 = 0$$

x^2

۱۰