

TRIGONOMETRÍA

ALGARROBOS

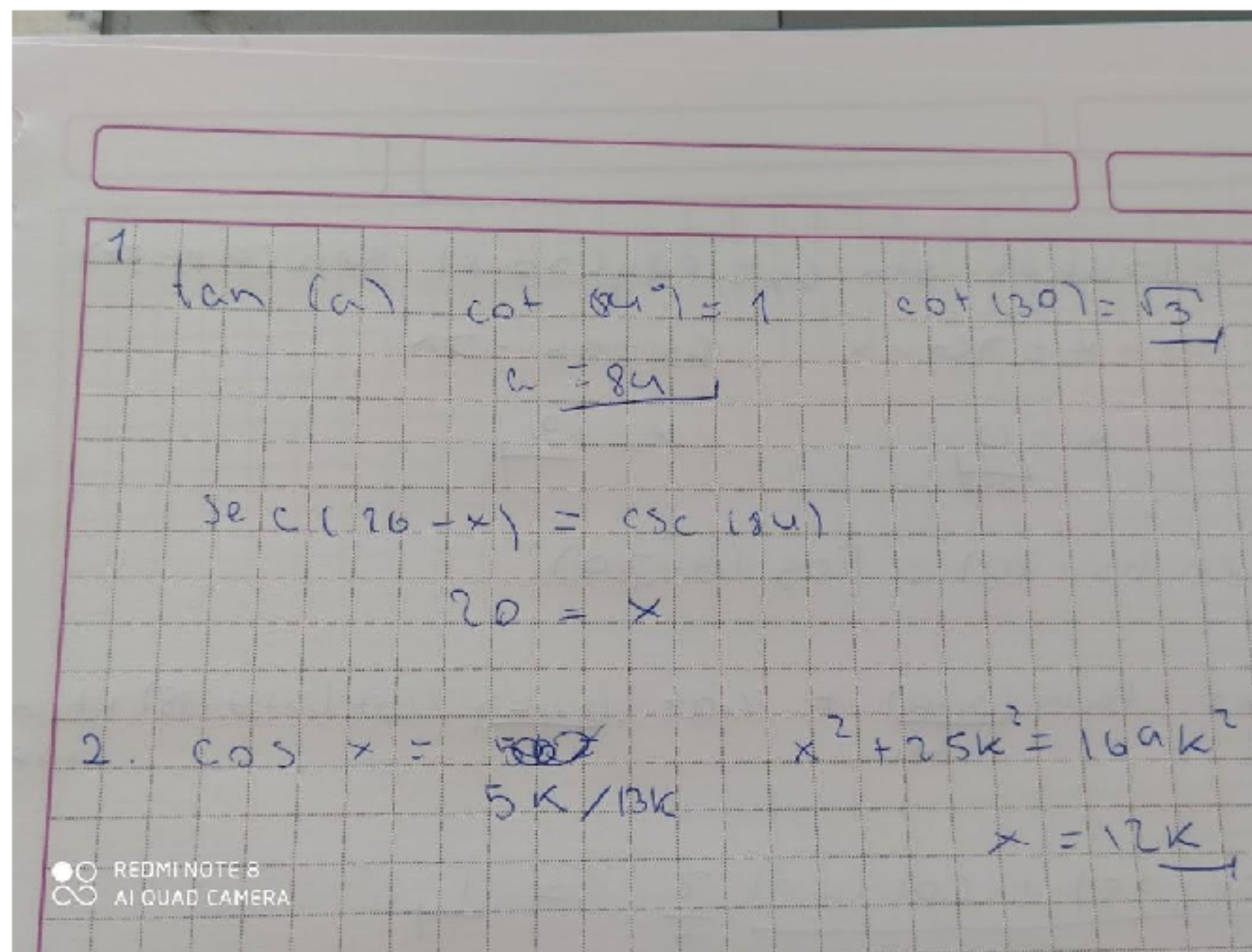


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Calcula $\cot(x + 10^\circ)$ si a es agudo, además:

$$\tan a = 1$$

$$\sec(26^\circ - x) = \csc a$$



Si: $\cos x = \frac{5}{13}$, (x agudo);

halla: $M = 4(\cot x + \csc x)$

Se c (20-x) = csc (90)

20 = x

2. $\cos x = \frac{5k}{13k}$ $x^2 + 25k^2 = 169k^2$

$x = 12k$

$m = \frac{18}{3} = 6$

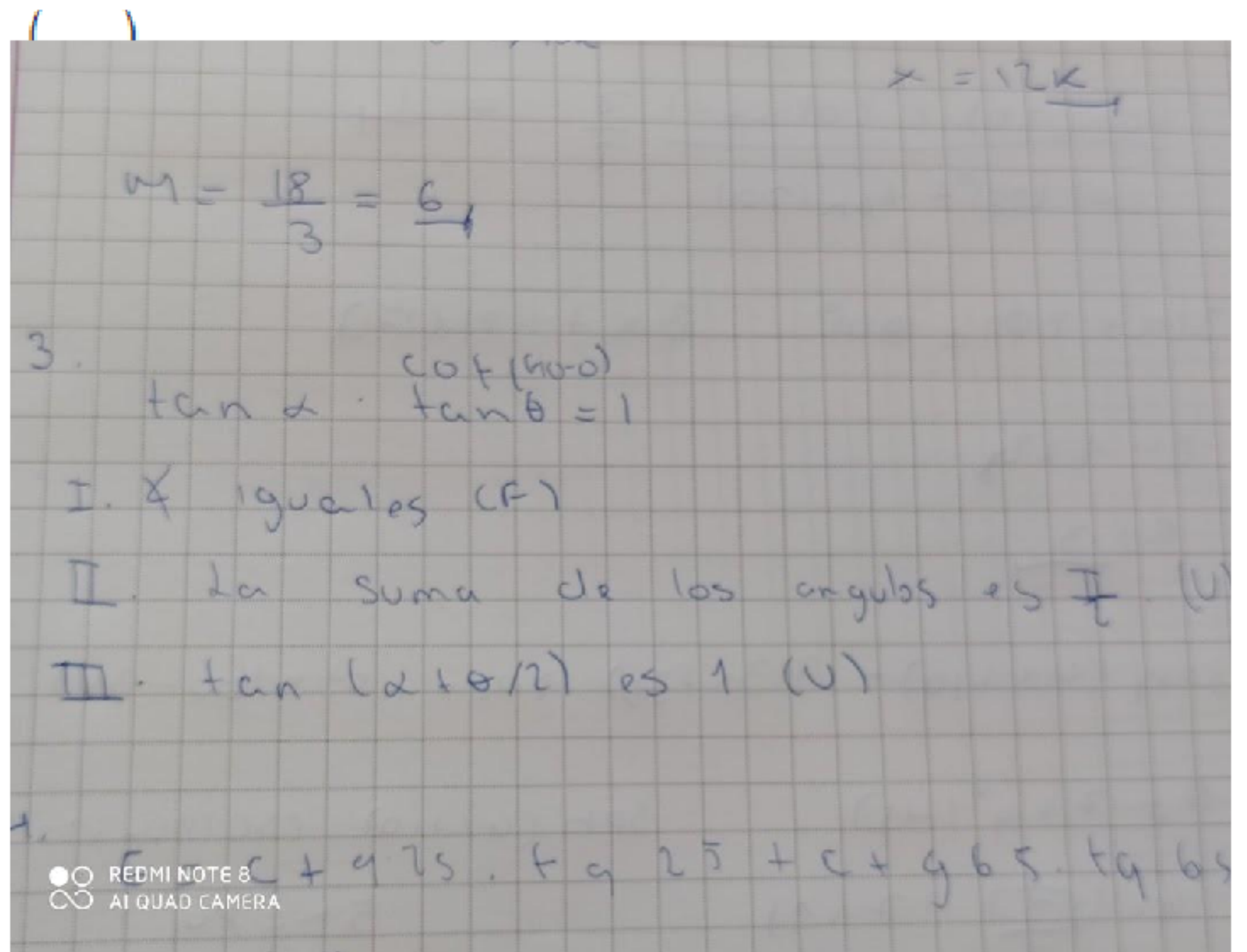
3. $\cot(\pi - \theta)$
 $\tan \theta = 1$

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Para α y θ agudos se cumple: $\tan\alpha \tan\theta = 1$

Indica el valor de verdad de las proposiciones:

- Son ángulos iguales.
- La suma de los ángulos es igual a $\frac{\pi}{2}$ rad.
- $\tan\left(\frac{\alpha + \theta}{2}\right)$ es igual a la unidad.



Determinar : $E = (\operatorname{tg} 25^\circ + \operatorname{ctg} 65^\circ) \cdot \operatorname{ctg} 25^\circ$

3. $\tan \alpha \cdot \operatorname{ctg}(\alpha + \theta) = 1$

I. α iguales (F)

II. La suma de los ángulos es $\frac{\pi}{2}$ (V)

III. $\tan(\alpha + \theta/2)$ es 1 (V)

4. $E = \operatorname{ctg} 25^\circ \cdot \operatorname{tg} 25^\circ + \operatorname{ctg} 65^\circ \cdot \operatorname{tg} 65^\circ$

$1 + 1 = 2$

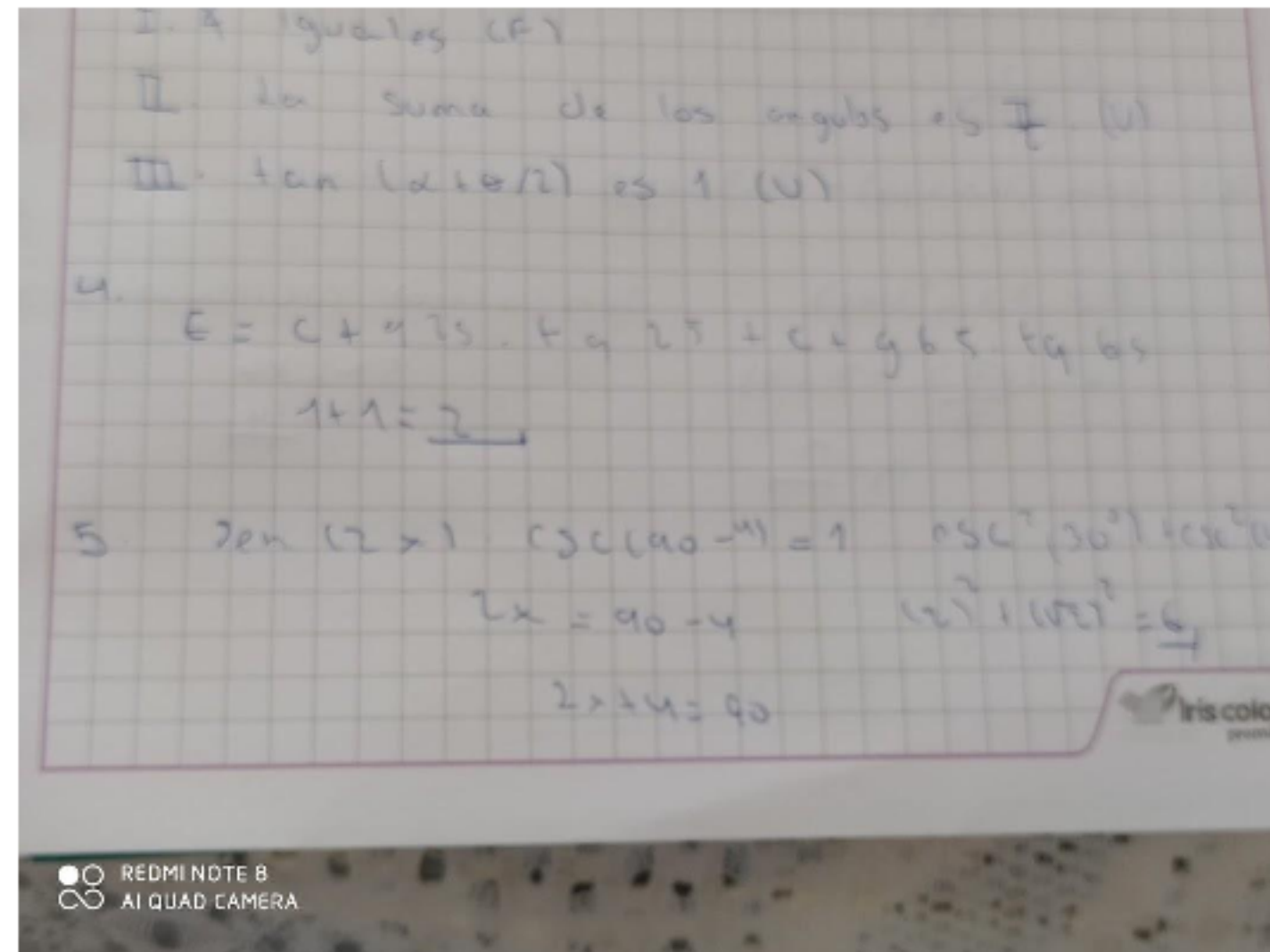
5. $\operatorname{sen}(2x) \cdot \operatorname{csc}(90 - 4x) = 1$ $\operatorname{csc}^2(30^\circ)$

$2x = 90 - 4x$ $(2)^2 + (\sqrt{2})^2 =$

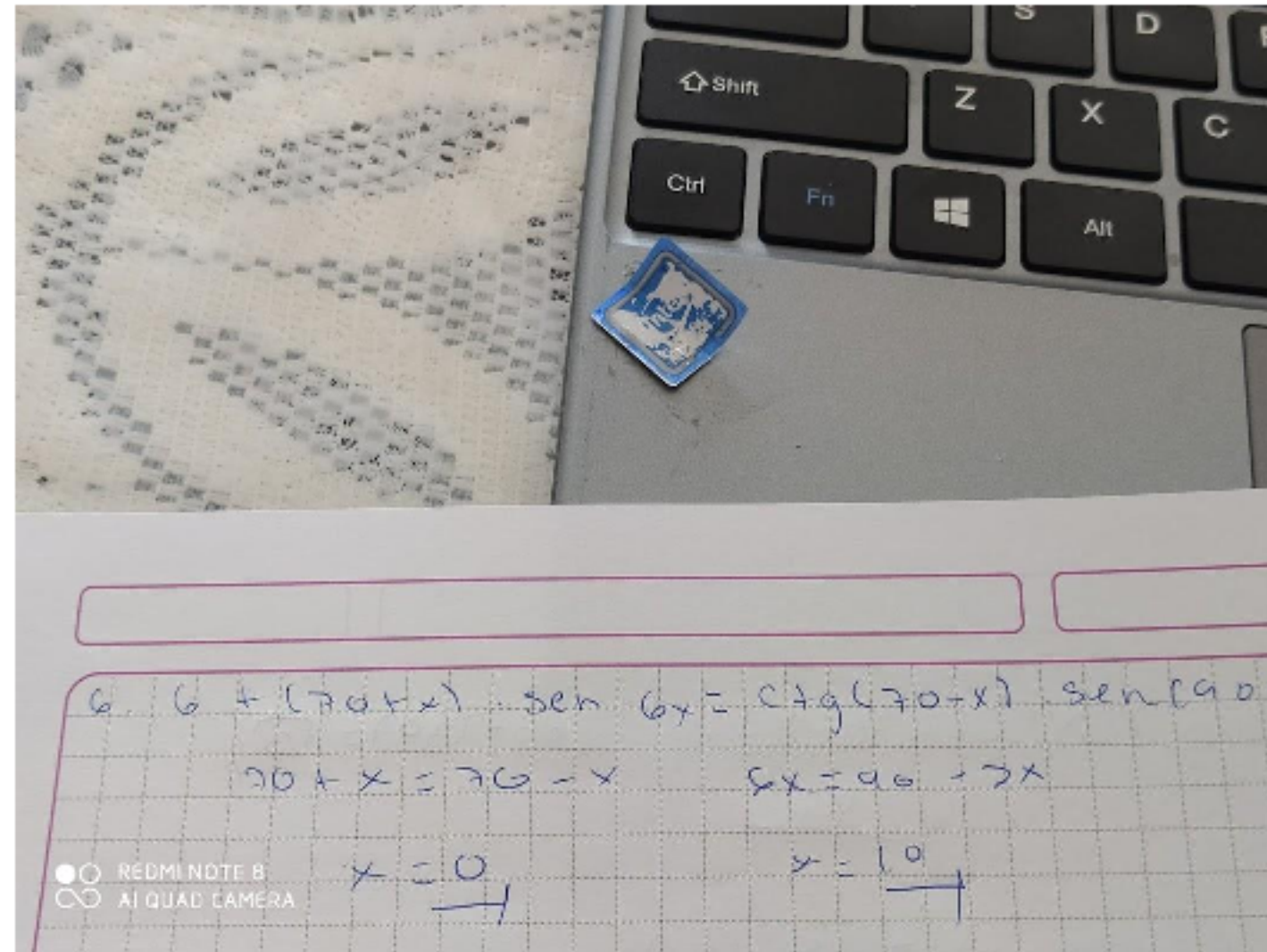
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Si : $\text{sen}2x \text{ sec } y=1$, Determinar :

$$P=\text{csc}^2\left(\frac{2x+y}{3}\right)+\text{csc}^2\left(\frac{2x+y}{2}\right)$$

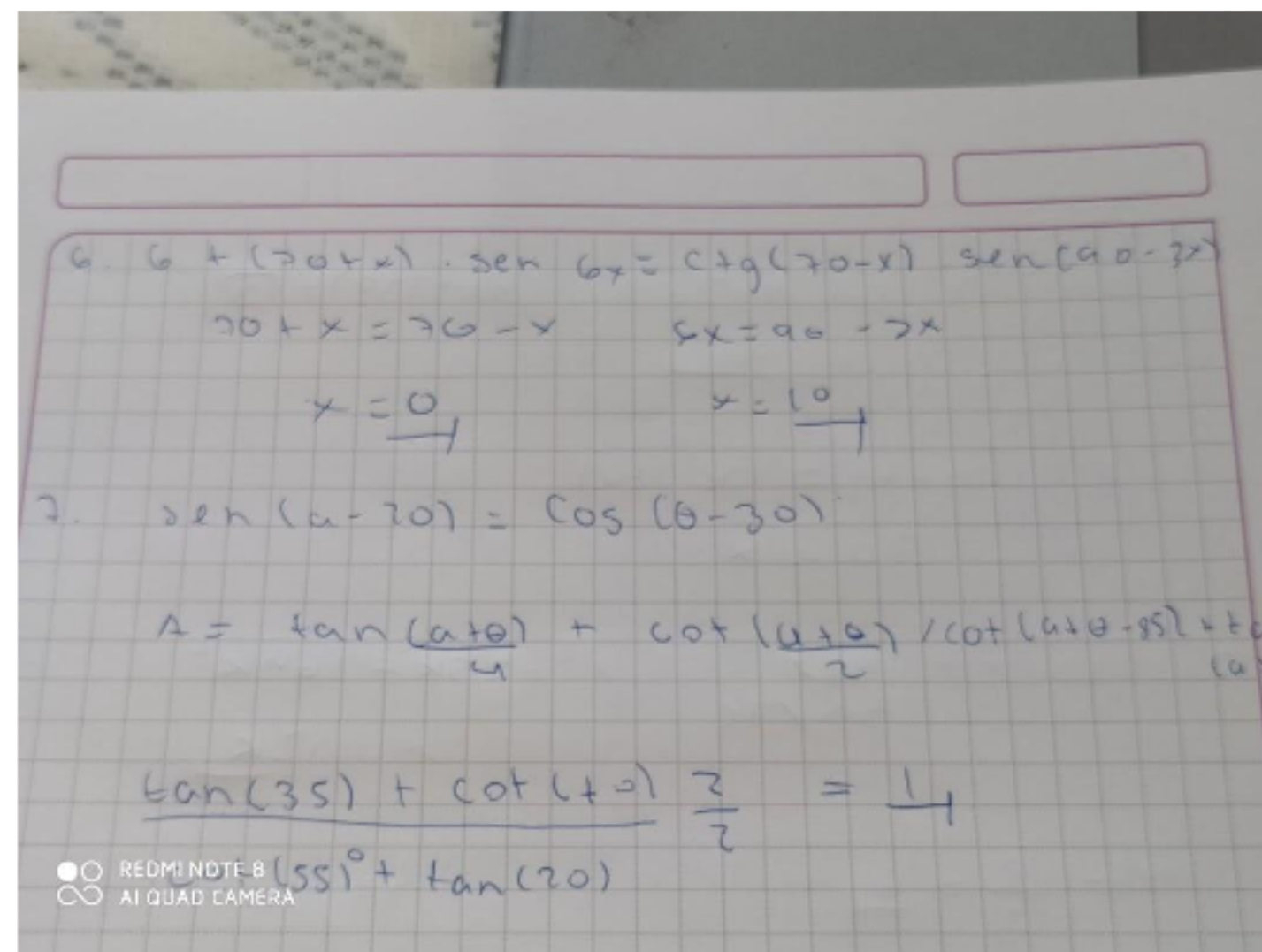


$$\operatorname{tg}(20^\circ + x) \operatorname{sen} 6x = \operatorname{ctg}(70^\circ - x) \cos 3x$$



Si: $\text{sen}(\alpha - 20^\circ) = \text{cos}(\theta - 30^\circ)$, " α " y " θ "
 ángulos agudos, Determinar:

$$A = \frac{\tan\left(\frac{\alpha + \theta}{4}\right) + \cot\left(\frac{\alpha + \theta}{2}\right)}{\cot(\alpha + \theta - 85^\circ) + \tan(\alpha + \theta - 120^\circ)}$$



Si : $\sec \alpha = \csc 2\phi$, Determinar :

$$R = \tan \left[\frac{\alpha}{2} + \phi \right] + \sec (330^\circ - 3\alpha - 6\phi)$$

The image shows a handwritten derivation on grid paper. At the top, it states: $A = \frac{\tan(\alpha + \phi) + \cot(\alpha + \phi)}{\cot \frac{\alpha}{2}}$. Below this, it shows a calculation: $\frac{\tan(35) + \cot(40)}{\cot(55) + \tan(20)} = \frac{2}{2} = 1$. Then, it says "8." followed by two equations: $3(\alpha + 2\phi) = 90^\circ$ and $3\alpha + 6\phi = 270$. Below these, it shows $R = 1 + 2$ and finally $R = 3$ with a horizontal line under the 3.

$A = \frac{\tan(\alpha + \phi) + \cot(\alpha + \phi)}{\cot \frac{\alpha}{2}}$

$\frac{\tan(35) + \cot(40)}{\cot(55) + \tan(20)} = \frac{2}{2} = 1$

8. $3(\alpha + 2\phi) = 90^\circ$ $3\alpha + 6\phi = 270$

$R = 1 + 2$

$R = \underline{3}$

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$$\text{Si: } \operatorname{sen}(4x+10^\circ)\operatorname{tg}(3x+30^\circ)\operatorname{sec}x=\operatorname{ctg}(60^\circ-3x)$$

$$\text{Determinar: } P=6\operatorname{tg}^2(3x-18^\circ)+7\operatorname{tg}^6(x+29^\circ)$$

Handwritten mathematical solution on grid paper:

$$3(\alpha + 2\phi) = 90^\circ \quad 3\alpha + 6\phi = 270$$
$$R = 1 + 2$$
$$R = 3$$
$$\operatorname{sen}(4x+10^\circ) + 9(3x+30^\circ) - \operatorname{sec}x = \operatorname{ctg}(60^\circ-3x)$$
$$R = 7 + 9^\circ(45) \quad \operatorname{sen}(4x+10^\circ) \cdot \operatorname{csc}(90^\circ-x) = 1$$
$$6 \cdot \frac{(\sqrt{3})}{3} + 7(1) \quad 5x = 80$$
$$\alpha = 10^\circ \quad x = 16^\circ$$

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