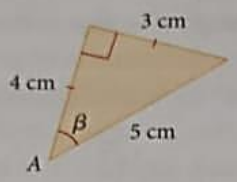
de las razones trigonométricas para β.

1.



sen β = 3/5

cos β = 4/5

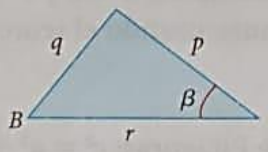
tan β = 3/4

cot β = 4/3

sec β = 5/4

csc β = 5/3

2.



sen β = q/p

cos β = r/p

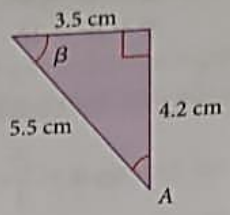
tan β = q/r

cot β = r/q

sec β = p/r

csc β = p/q

3.



sen β = 4.2/5.6

cos β = 3.5/5.6

tan β = 4.2/3.5

cot β = 3.5/4.2

sec β = 5.6/3.5

csc β = 5.6/4.2

4.

sen β = 1/√2

cos β = 1/√2

tan β = 7/7 = 1

cot β = 7/7 = 1

sec β = 7√2/7 = √2

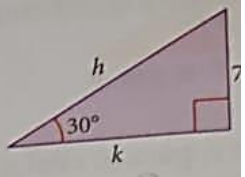
csc β = 7√2/7 = √2

Construye en tu cuaderno un triángulo rectángulo que cumpla con cada condición dada.

12. csc α = 9/2

Expresa el valor de cada datos suministrados. U

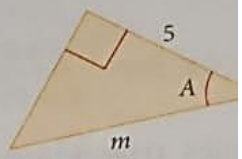
15.



h = _____

k = _____

16.



m = _____

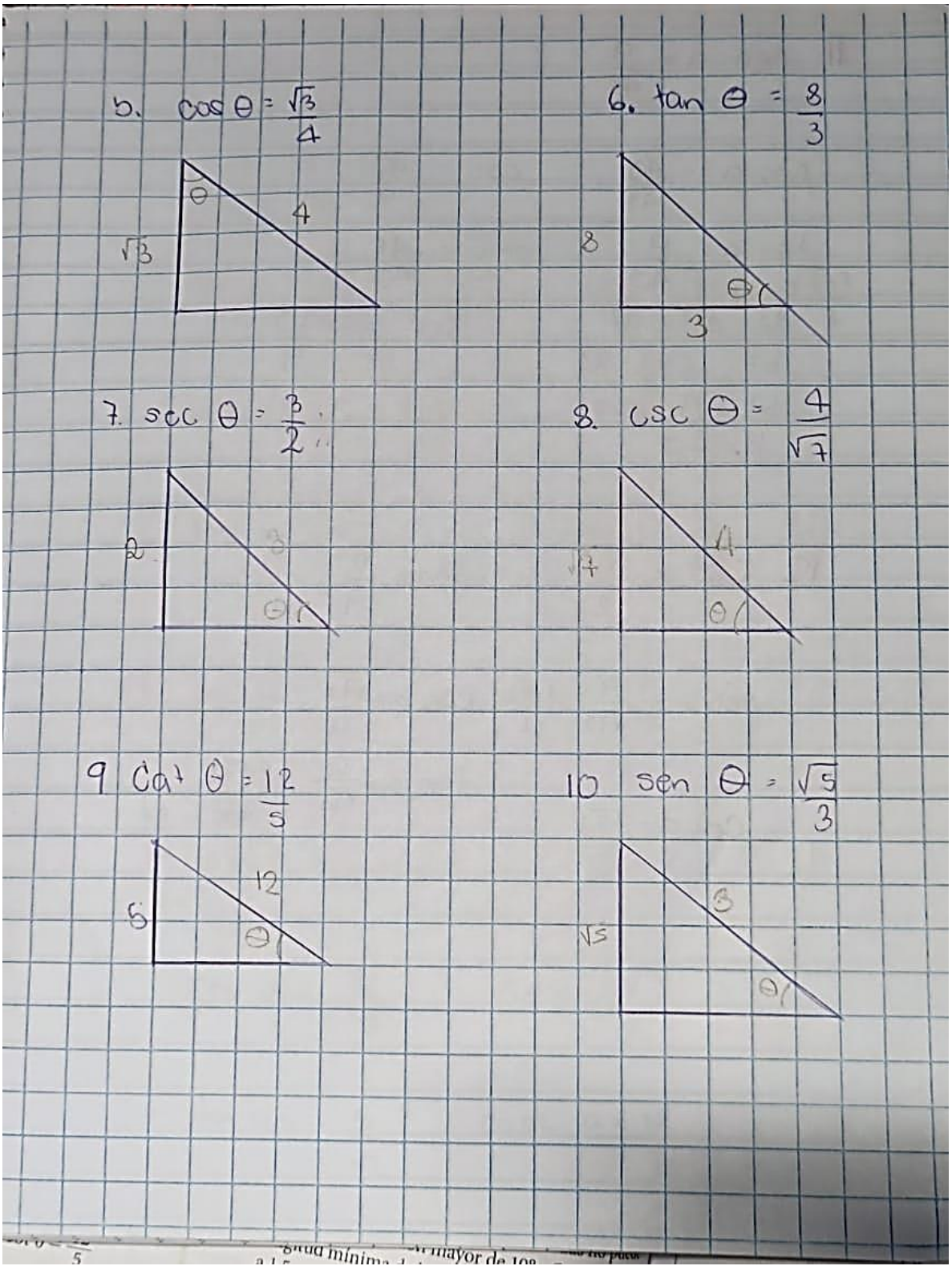
Demuestra en tu cuad a partir del siguiente

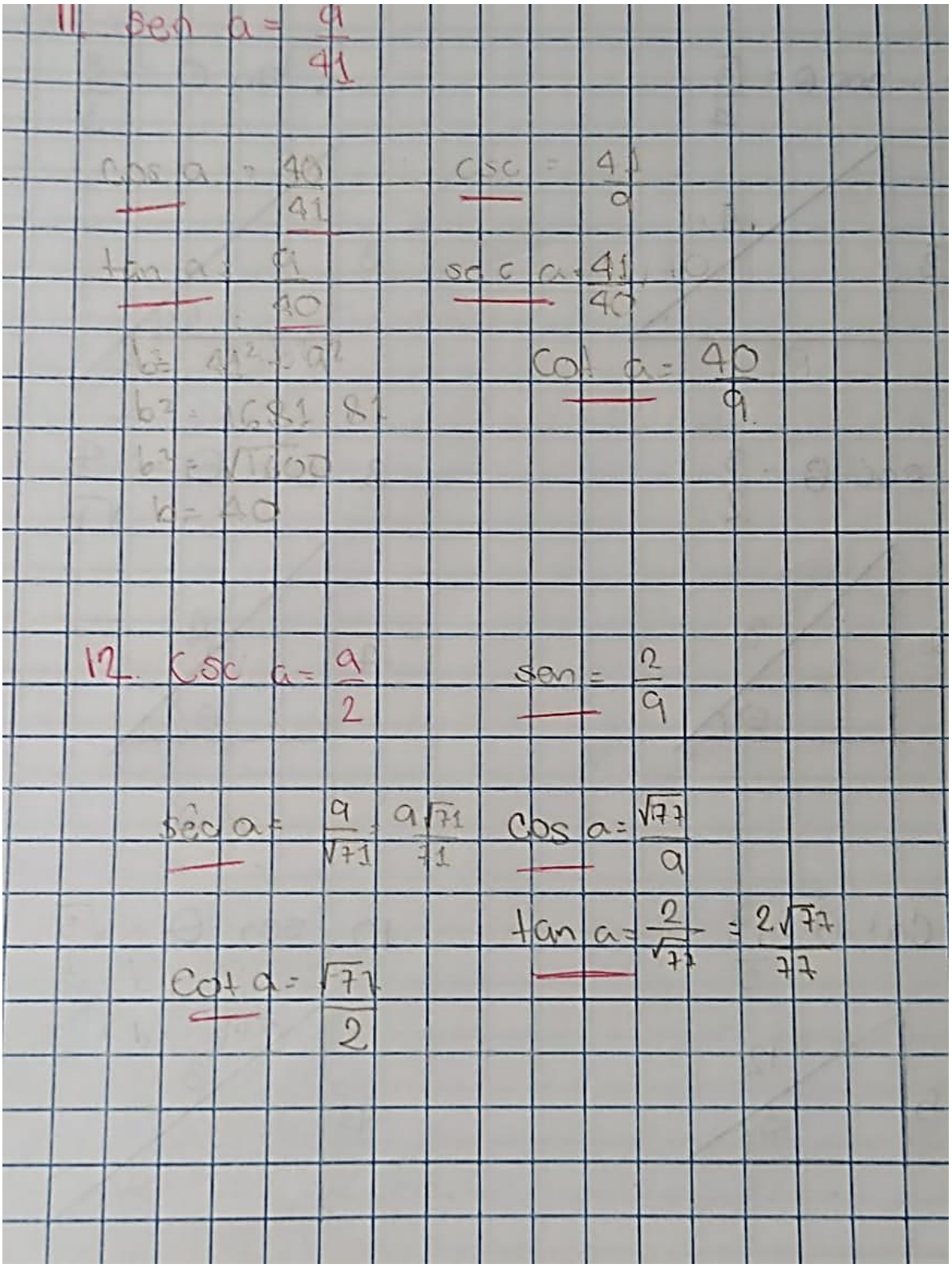
19. tan α = sen α / cos α

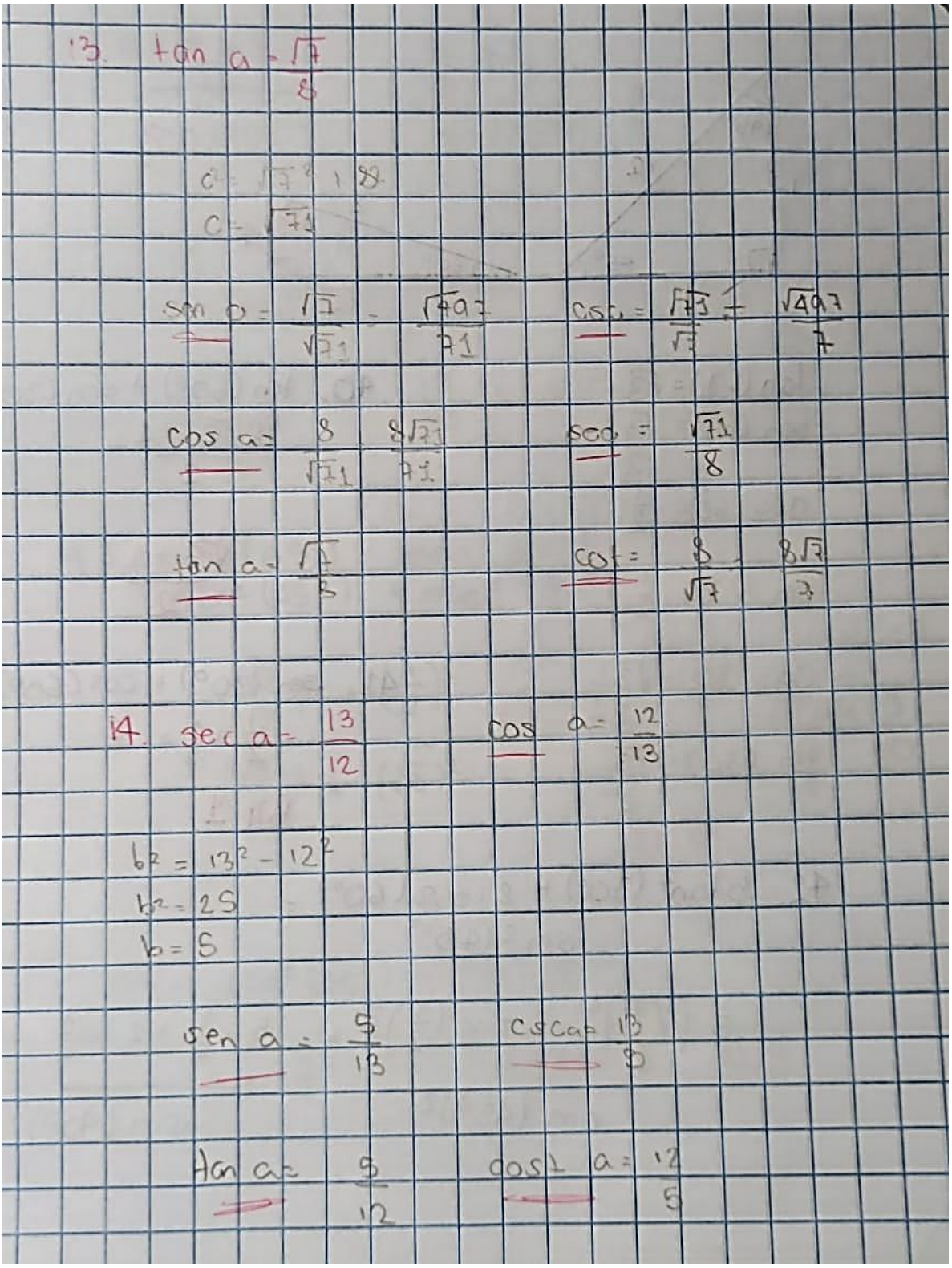
20. cot α = cos α / sen α

21. sec α = 1 / cos α

Resuelve el siguient


5. cos θ = √3/4
θ
4
√3
6. tan θ = 8/3
8
θ
3
7. sec θ = 3/2
2
θ
8. csc θ = 4/√7
4
√7
θ
9 cot θ = 12/5
12
5
θ
10 sen θ = √5/3
3
√5
θ


11. sen a = 9/41
cos a = 40/41
csc = 41/9
tan a = 9/40
sec a = 41/40
b² = 41² - 9²
b² = 1681 - 81
b² = √1600
b = 40
cot a = 40/9
12. csc a = 9/2
sen = 2/9
sec a = 9/√77 , 9√77/77
cos a = √77/9
tan a = 2/√77 = 2√77/77
cot a = √77/2


13. tan a = √7/8
c = √7² + 8²
c = √71
sen θ = √7/√71 = √497/71
csc θ = √71/√7 = √497/7
cos a = 8/√71 = 8√71/71
sec θ = √71/8
tan a = √7/8
cot = 8/√7 = 8√7/7
14. sec a = 13/12
cos a = 12/13
b² = 13² - 12²
b² = 25
b = 5
sen a = 5/13
csc a = 13/5
tan a = 5/12
cot a = 12/5

Verifica si son ciertas las igualdades siguientes.

30. $\text{sen}(30°) + \text{sen}(45°) = \text{sen}(75°)$ NO

31. $\text{sen}(90°) - \text{sen}(60°) = \text{sen}(30°)$ NO

32. $2\tan(30°) = \tan(60°)$ NO

33. $\text{sen}(60°) = 2\text{sen}(30°)\cos(30°)$ Si

34. $\cos(45°) = \dfrac{\cos(90°)}{2}$ NO

35. $\cos(60°) = \cos^2(30°) - \text{sen}^2(30°)$ Si

Escribe V, si la expresión es verdadera o F, si es falsa.

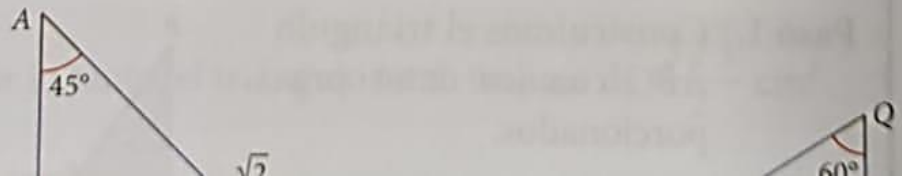
36. $\cos(30°) + \cos(60°) = 2\cos(45°)$ F

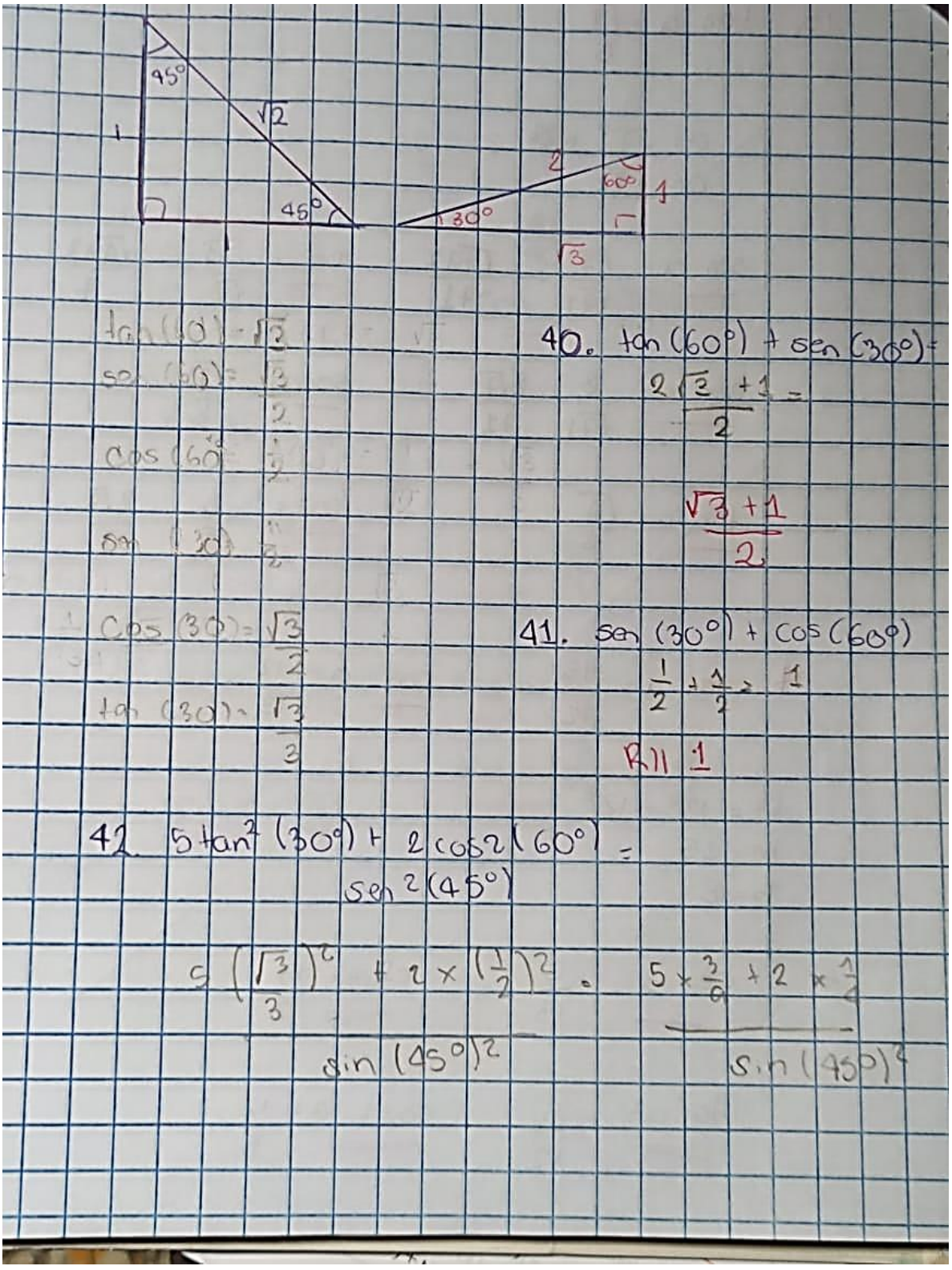
37. $(\text{sen}(30°))(\cos(30°)) = \text{sen}(30°)$ F

38. $\cos(60°) = 2\cos^2(30°) - 1$ V

39. $\text{sen}^2(30°) + \cos^2(30°) = 1$ V

Utiliza los triángulos notables para hallar el valor de cada expresión.





$\tan(60) = \sqrt{3}$

$\sin(60) = \frac{\sqrt{3}}{2}$

$\cos(60) = \frac{1}{2}$

$\sin(30) = \frac{1}{2}$

$\cos(30) = \frac{\sqrt{3}}{2}$

$\tan(30) = \frac{\sqrt{3}}{3}$

40. $\tan(60°) + \sin(30°) =$

$\frac{2\sqrt{3} + 1}{2} =$

$\frac{\sqrt{3} + 1}{2}$

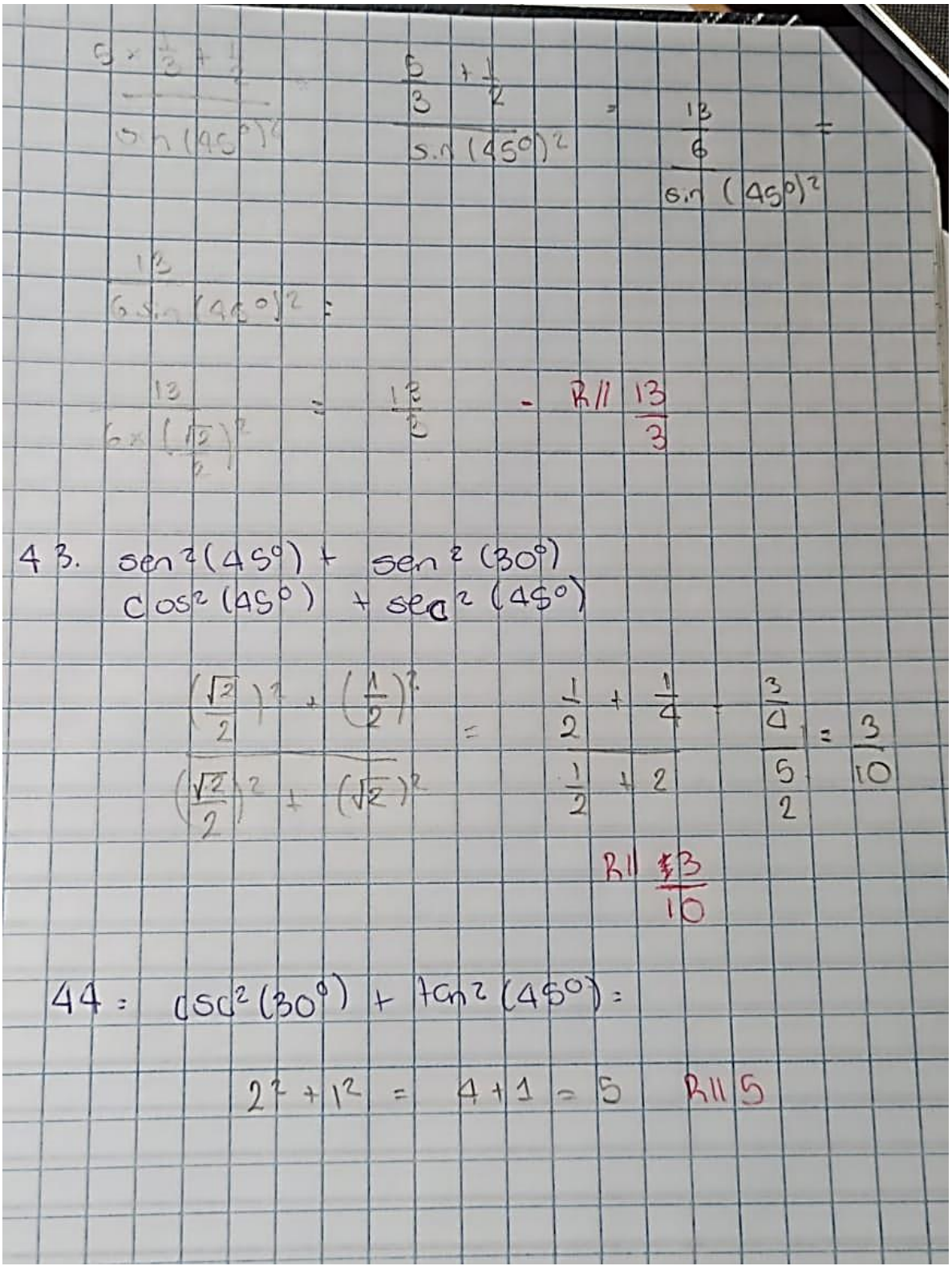
41. $\sin(30°) + \cos(60°)$

$\frac{1}{2} + \frac{1}{2} = 1$

R// 1

42 $\frac{5\tan^2(30°) + 2\cos^2(60°)}{\sin^2(45°)} =$

$\frac{5\left(\frac{\sqrt{3}}{3}\right)^2 + 2 \times \left(\frac{1}{2}\right)^2}{\sin(45°)^2} = \frac{5 \times \frac{3}{9} + 2 \times \frac{1}{4}}{\sin(45°)^2}$



$$\frac{5\times\frac{1}{2}+\frac{1}{2}}{\sin(45^\circ)^2}$$

$$\frac{\frac{5}{3}+\frac{1}{2}}{\sin(45^\circ)^2} = \frac{\frac{13}{6}}{\sin(45^\circ)^2} =$$

$$\frac{13}{6\sin(45^\circ)^2} :$$

$$\frac{13}{6\times\left(\frac{\sqrt{2}}{2}\right)^2} = \frac{13}{3}$$ - R// $\frac{13}{3}$

43. $\sin^2(45^\circ) + \sin^2(30^\circ)$
$\cos^2(45^\circ) + \sec^2(45^\circ)$

$$\frac{\left(\frac{\sqrt{2}}{2}\right)^2+\left(\frac{1}{2}\right)^2}{\left(\frac{\sqrt{2}}{2}\right)^2+\left(\sqrt{2}\right)^2} = \frac{\frac{1}{2}+\frac{1}{4}}{\frac{1}{2}+2} = \frac{\frac{3}{4}}{\frac{5}{2}} = \frac{3}{10}$$

R// $\frac{3}{10}$

44: $\csc^2(30^\circ) + \tan^2(45^\circ) =$

$2^2+1^2 = 4+1 = 5$ R// 5