Étudier la fonction donnée par

$$f(x) = \frac{x+1}{x-1}$$

$$f(0) = \frac{0+1}{0-1} = -1$$

On demande :

1. D_f, zéros, signe
2. asymptote $\begin{cases} \text{verticale} & x \to 2 \\ \text{horizontale} & x \to \infty \end{cases}$
3. Dessin du graphe

1. $D_f = \mathbb{R} - \{1\}$

$f(x) = 0 \Leftrightarrow x = -1$

$1 \notin D_f$

-1		1	
$+$	0	$-$	$+$

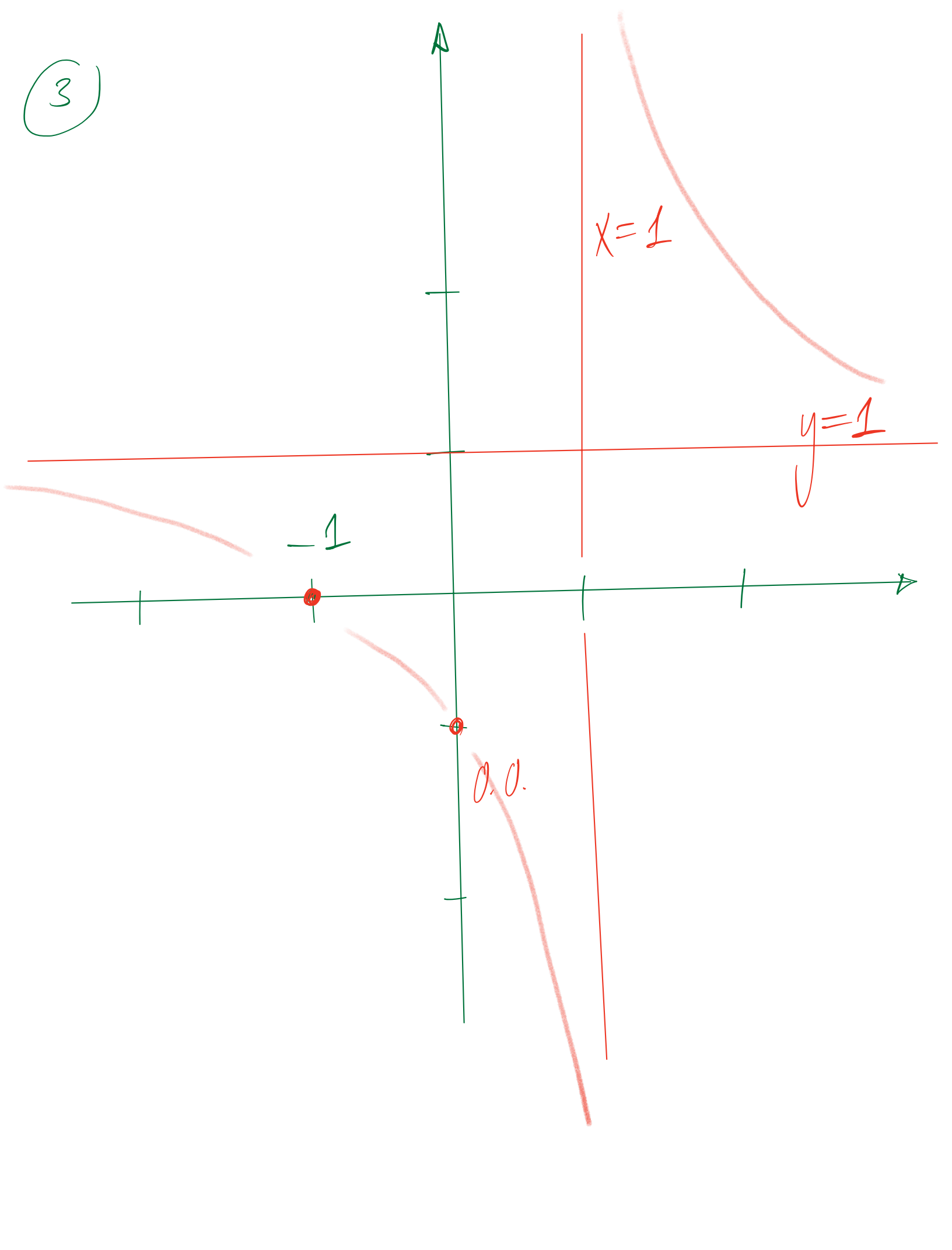
(2) $\dfrac{x+1}{x-1} \xrightarrow{x \to \infty} \dfrac{x}{x} = 1$

A.H. en $y = 1$

$\dfrac{x+1}{x-1} \xrightarrow{x \to 1} \ll \dfrac{2}{0} \gg = \infty$

A.V. en $x = 1$

(3)



$$\frac{1,9}{0,1}$$

$$\frac{1,99}{0,01}$$

$$\frac{1,999}{0,01}$$

bökon

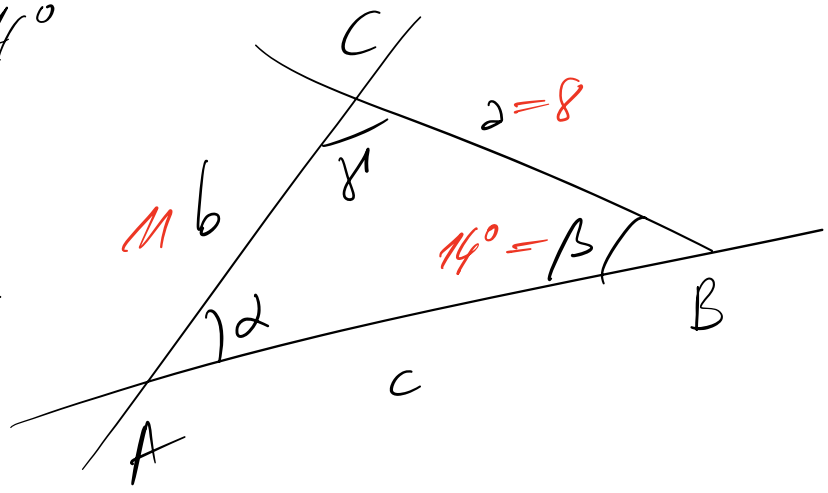
↓

$$\frac{1,99999\ldots 9}{0,0000\ldots 01} \simeq \text{hinarme}$$

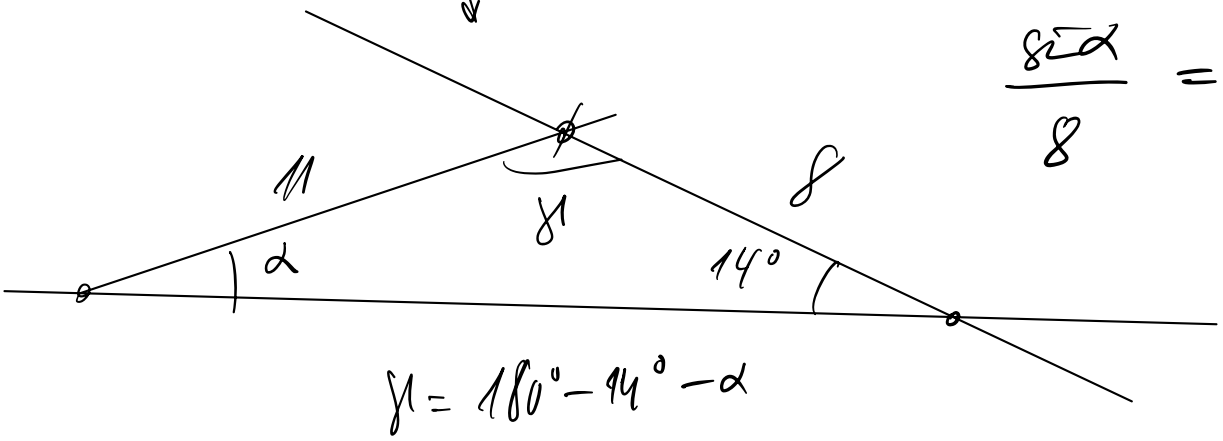
$$f(x) = \frac{ax+b}{cx+d}$$

$a = 8$ $\quad \beta = 14°$

$b = 11$



Construire

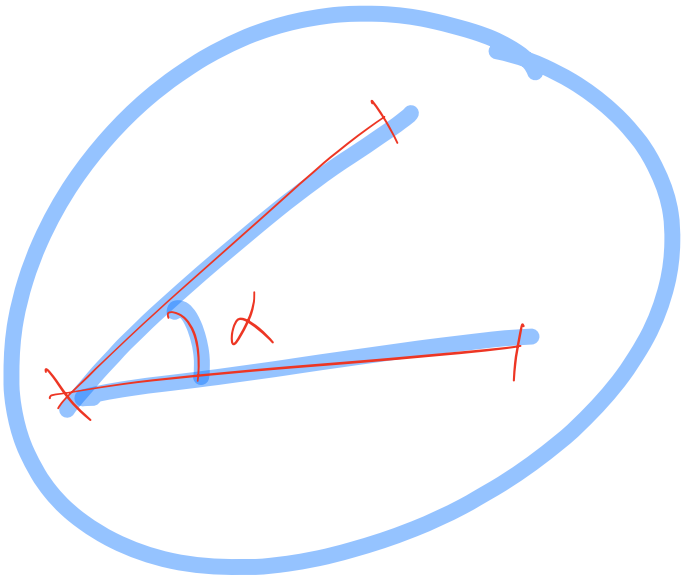


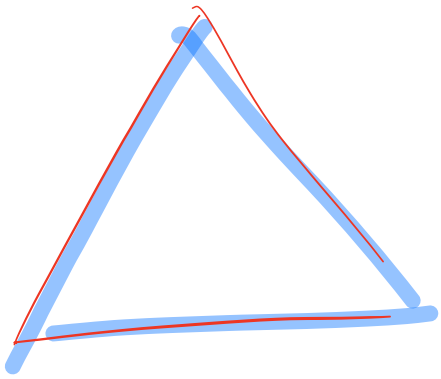
$$\frac{\sin\alpha}{8} = \frac{\sin 14°}{11}$$

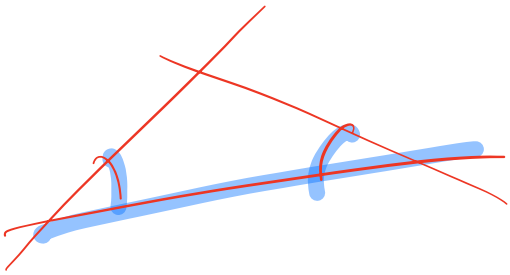
$$\gamma = 180° - 14° - \alpha$$

Résoudre :

- toutes les longueurs ;
- tous les angles ;
- l'aire.

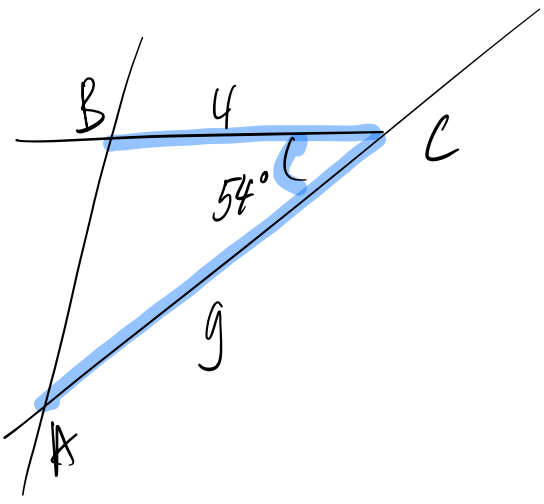


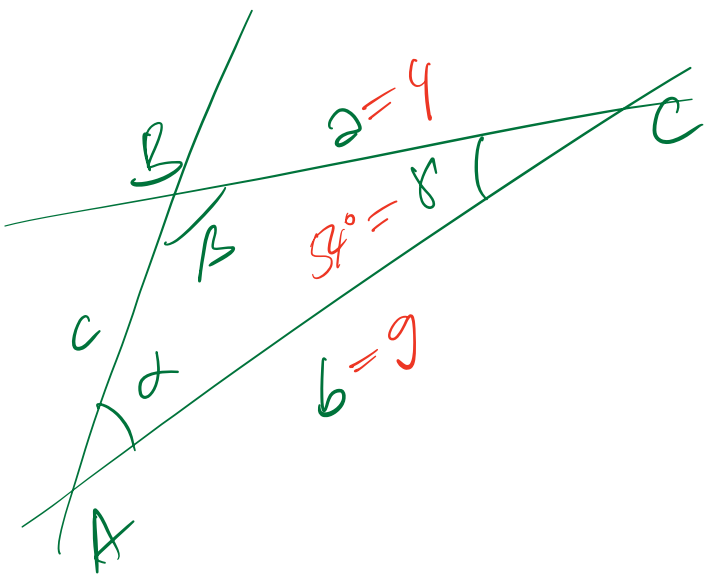


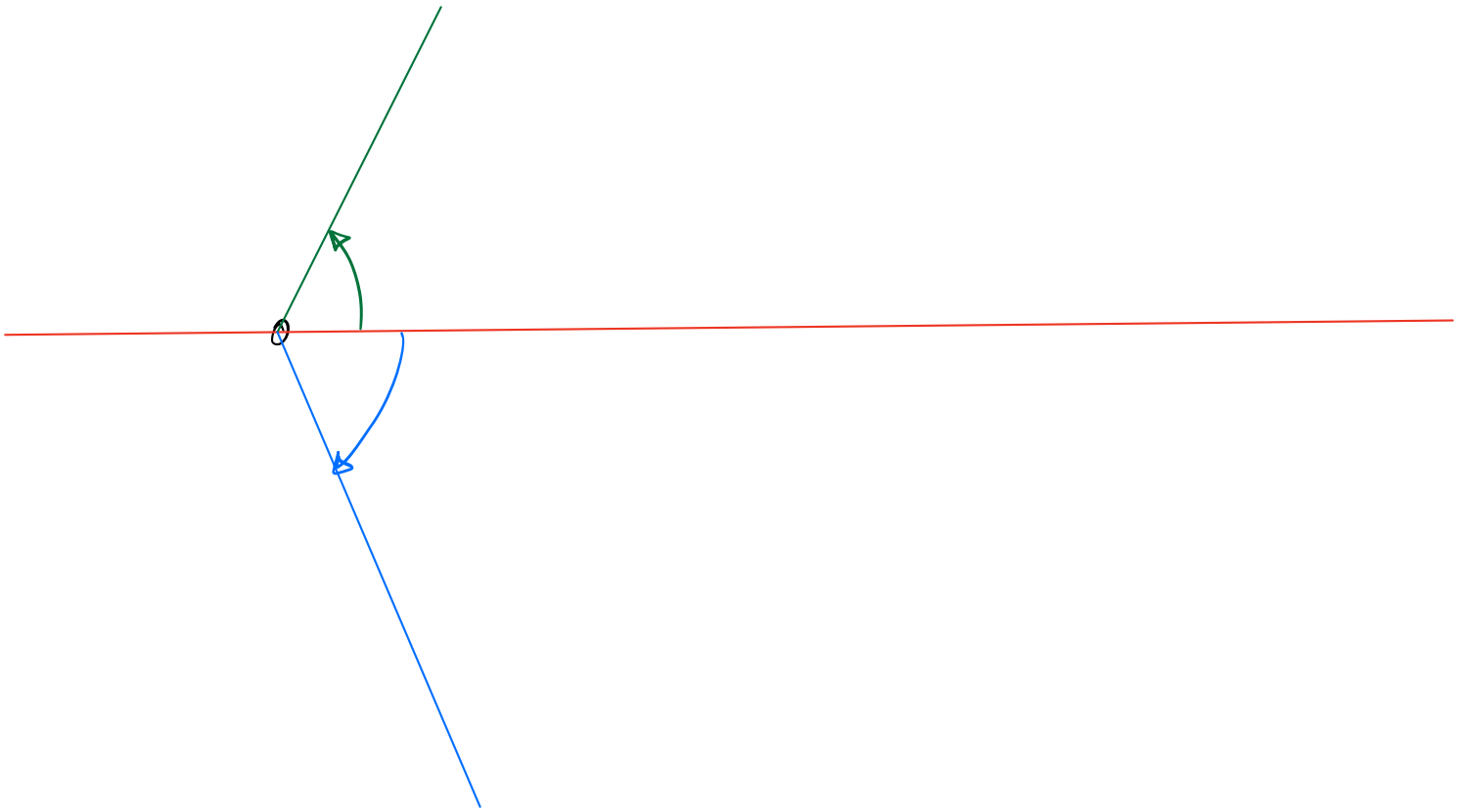


$a = 4$ $\quad \gamma = 54°$

$b = 9$



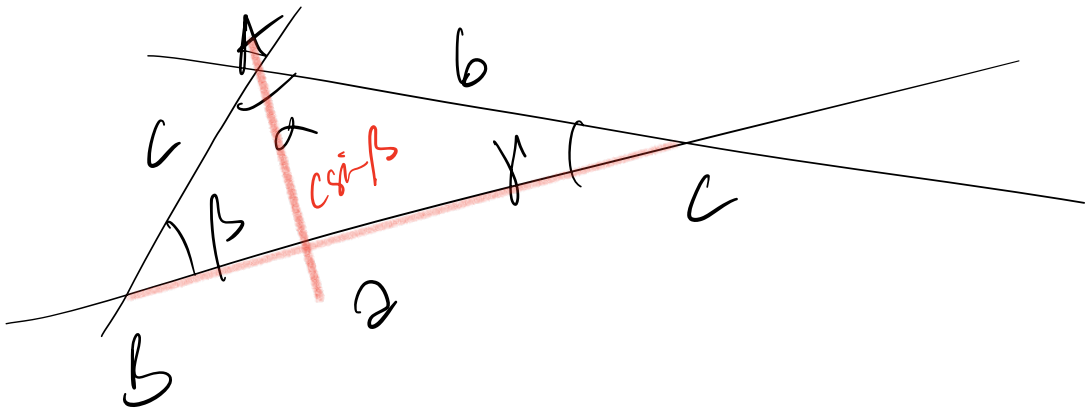



O

$$A = \frac{1}{2} bc \sin\alpha = \frac{1}{2} ab \sin\gamma$$

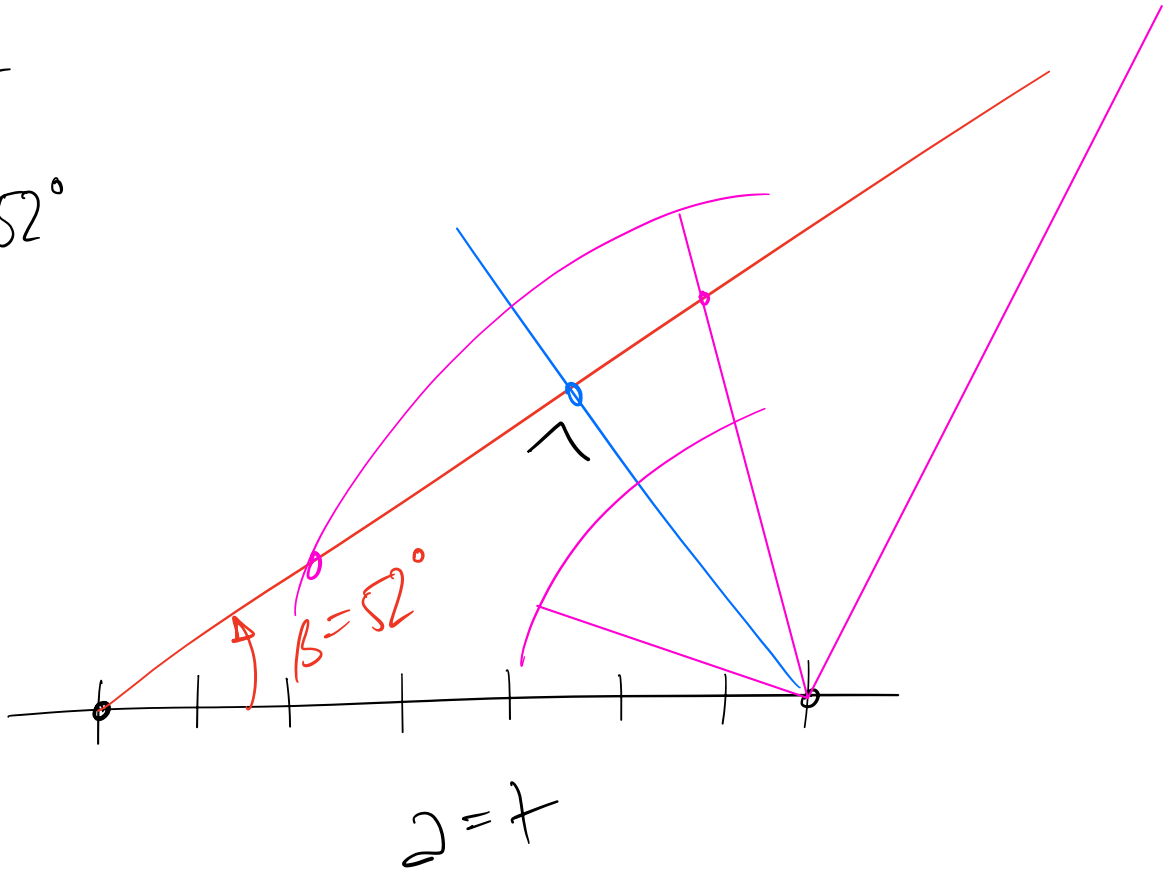
$$= \frac{1}{2} ac \sin\beta$$

12

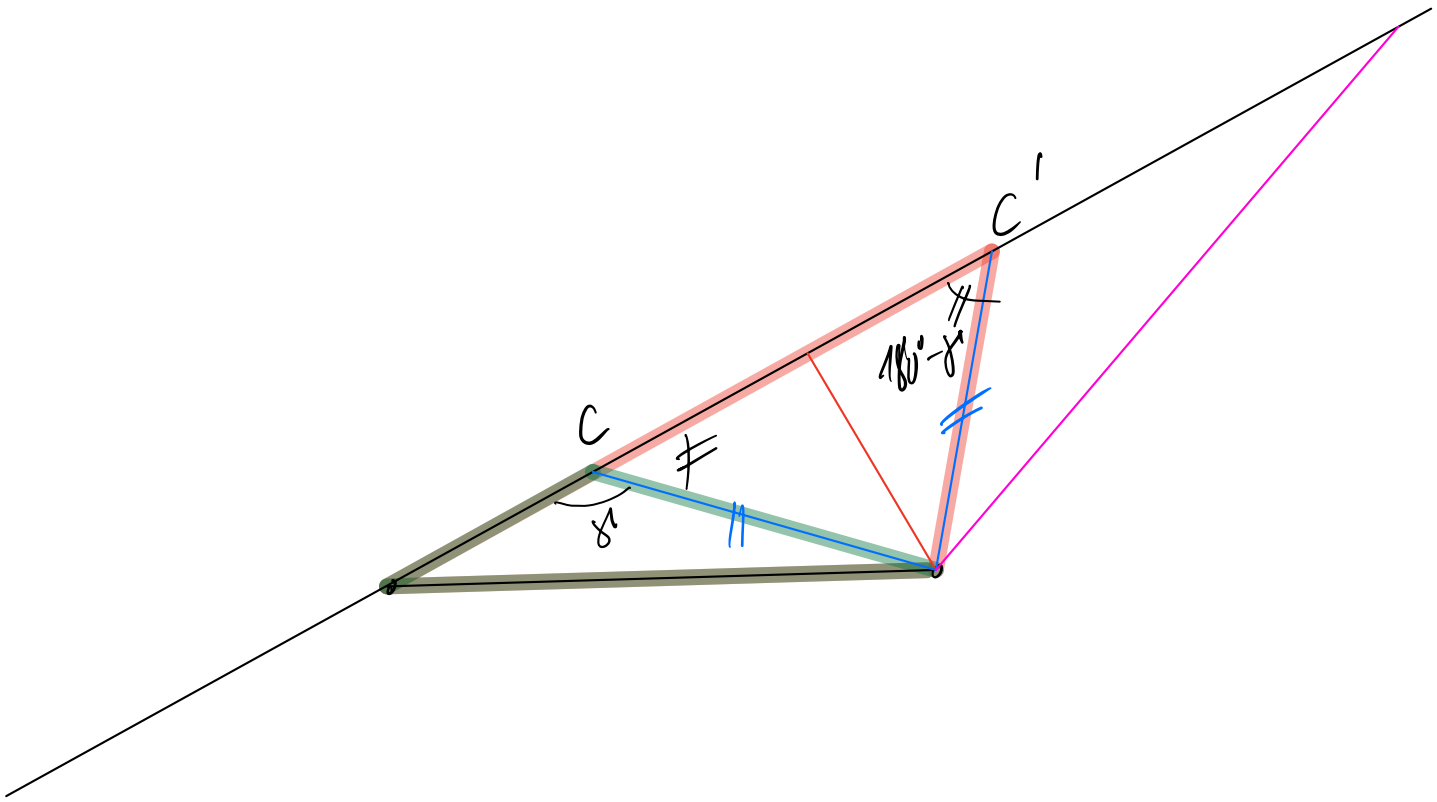


$a = 7$

$\beta = 52^\circ$



$a = 7$


C'
C
γ
180° - γ