① $f(x) = \cos(1-3x)$

$f(x) = \cos g(x)$ $\quad$ $g(x) = 1-3x$

$\cos 0 = 1$

$\cos \frac{\pi}{2} = 0$

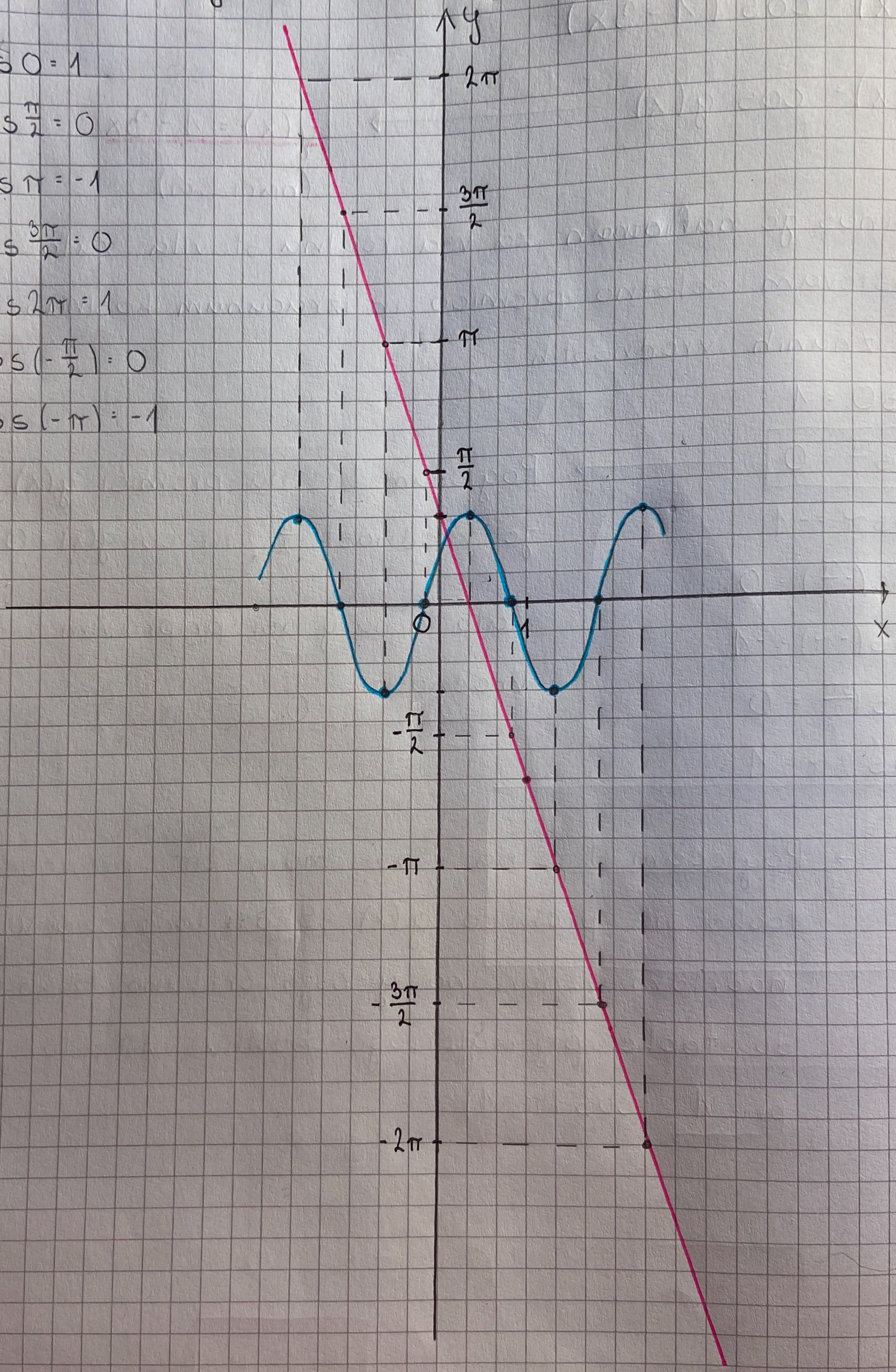
$\cos \pi = -1$

$\cos \frac{3\pi}{2} = 0$

$\cos 2\pi = 1$

$\cos(-\frac{\pi}{2}) = 0$

$\cos(-\pi) = -1$



② $15x - 10y - 8 = 0 \longrightarrow 10y = 15x - 8 \quad / :10$

$\varphi = 45^\circ$

$y = \frac{3}{2}x - \frac{4}{5}$

$\downarrow$

$k_2 = \frac{3}{2}$

- enačba premice ki gre skozi $T(6, -1)$

$$\tan\varphi = \left| \frac{k_2 - k_1}{1 + k_1 \cdot k_2} \right|$$

ENAČBA PREMICE:

$y - y_1 = k(x - x_1)$

$y + 1 = k_1 (x - 6)$

$$1 = \left| \frac{\frac{3}{2} - k_1}{1 + \frac{3}{2}k_1} \right|$$

$\tan 45^\circ = \underline{\underline{1}}$

$-\frac{3}{2} + k = 1 + \frac{3}{2}k_1$

$\frac{1}{2}k = -\frac{5}{2} \quad / \cdot 2$

$\boxed{k = -5}$

če je −

$\frac{3}{2} - k = 1 + \frac{3}{2}k_1$

$\frac{5}{2}k = \frac{1}{2} \quad / \cdot 2$

$5k = 1 \quad / :5$

$\boxed{k = \frac{1}{5}}$

če je +

① $y + 1 = \frac{1}{5}(x - 6)$

$\underline{\underline{y = \frac{1}{5}x - \frac{11}{5}}}$

② $y + 1 = -5(x - 6)$

$\underline{\underline{y = -5x + 29}}$

Ker je absolutno sta možni 2 rešitvi

③ $ctg\,\alpha = 2 \Rightarrow tg\,\alpha = \frac{1}{2}$

$tg\,\beta = 3$

$\alpha, \beta \rightarrow$ ostra kota (I kv)

$\sin 2\alpha = ?$

$\tan(\alpha + \beta) = ?$

$1 + ctg^2\alpha = \frac{1}{\sin^2\alpha}$

$1 + 4 = \frac{1}{\sin^2\alpha} \quad / \cdot \sin^2\alpha$

$5\sin^2\alpha = 1 \quad / : 5$

$\sin^2\alpha = \frac{1}{5}$

$\sin\alpha = \frac{1}{\sqrt{5}}$

$\sin\alpha = \frac{\sqrt{5}}{5}$

$\sin^2\alpha + \cos^2\alpha = 1$

$\cos^2\alpha = 1 - \sin^2\alpha = 1 - \frac{1}{5}$

$\cos^2\alpha = \frac{4}{5}$

$\cos\alpha = \pm\sqrt{\frac{4}{5}}$

$+$

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

$\sin 2\alpha = 2\sin\alpha\cos\alpha$

$\sin 2\alpha = 2 \cdot \frac{\sqrt{5}}{5} \cdot \frac{2\sqrt{5}}{5}$

$\sin 2\alpha = \frac{4}{5}$

$\tan(\alpha + \beta) = \frac{\tan\alpha + \tan\beta}{1 - \tan\alpha \cdot \tan\beta}$

$= \frac{\frac{1}{2} + 3}{1 - \frac{1}{2} \cdot 3} = \frac{\frac{7}{2}}{-\frac{1}{2}} = -7$

④ $f(x) = -3\sin\left(\frac{3x}{4} + \frac{2\pi}{3}\right)$

MAKSIMUMI !

$\left(x = \frac{\pi}{2} + 2k\pi\right)$

$\frac{3x}{4} + \frac{2\pi}{3} = \frac{\pi}{2} + 2k\pi$

$\frac{3x}{4} = -\frac{\pi}{6} + 2k\pi \quad / \cdot 4$

$3x = -\frac{2\pi}{3} + 8k\pi \quad / : 3$

$x = -\frac{2\pi}{9} + \frac{8k\pi}{3}$

$x = \frac{-\pi(2 - 24k)}{9}$

$k \in \mathbb{Z}$

| k | x |
|---|---|
| -2 | $-\frac{62\pi}{9}$ |
| -1 | $-\frac{38\pi}{9}$ |
| 0 | $-\frac{14\pi}{9}$ |
| 1 | $\frac{10\pi}{9}$ |
| 2 | $\frac{34\pi}{9}$ |

MINIMUM ! → ker imam ⊖3 bodo maksimumi postali minimumi !

$\left(x = -\frac{\pi}{2} + 2k\pi\right)$

$\frac{3x}{4} + \frac{2\pi}{3} = -\frac{\pi}{2} + 2k\pi$

$\frac{3x}{4} = -\frac{7\pi}{6} + 2k\pi \quad / \cdot 4$

$3x = -\frac{14\pi}{3} + 8k\pi \quad / : 3$

$x = -\frac{14\pi}{9} + \frac{8k\pi}{3}$

$x = \frac{-\pi(14 - 24k)}{9}$