

Equazioni goniometriche e grafici

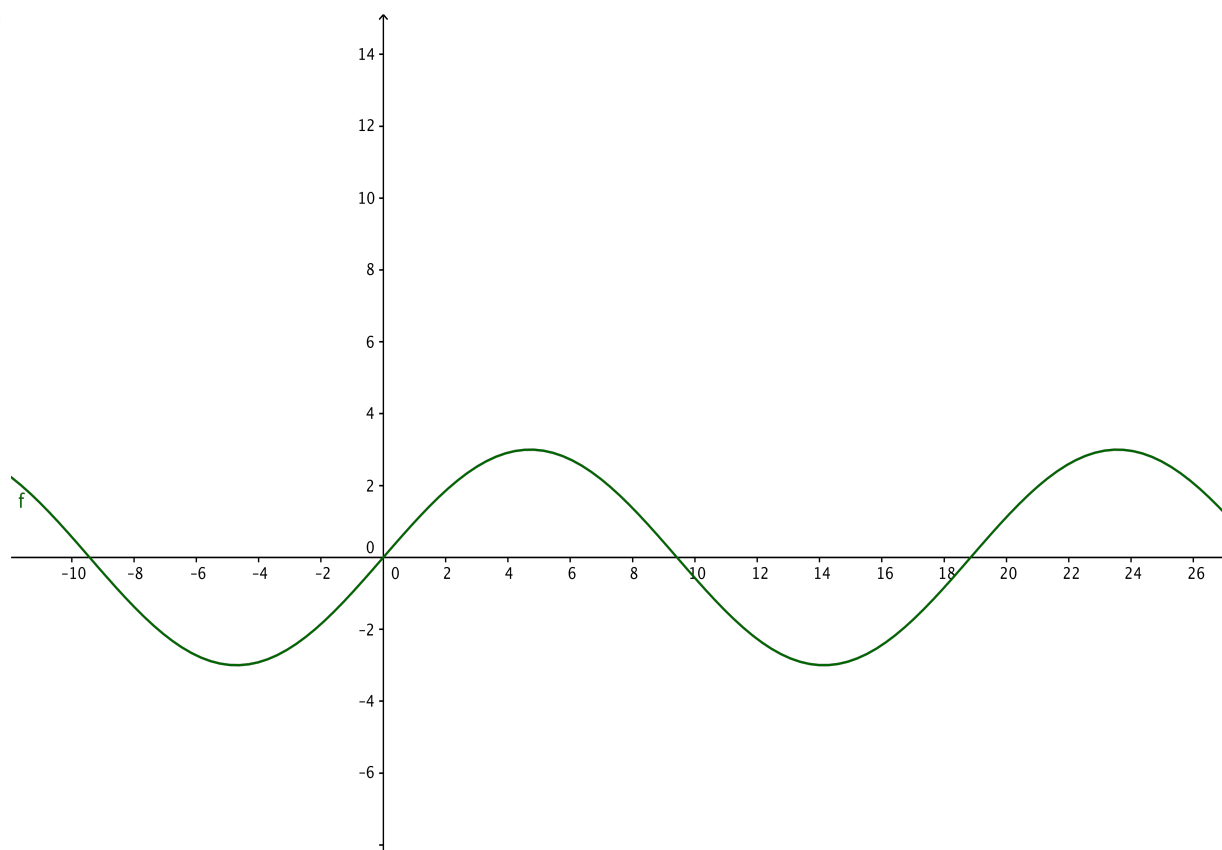
Cognome _____

Classe _____

Data _____

Il campo in grassetto è obbligatorio

1



Qual è la funzione goniometrica a cui si riferisce il seguente grafico?

A $y = 3 \sin(x)$

B $y = 3 \sin\left(\frac{1}{3}x\right)$

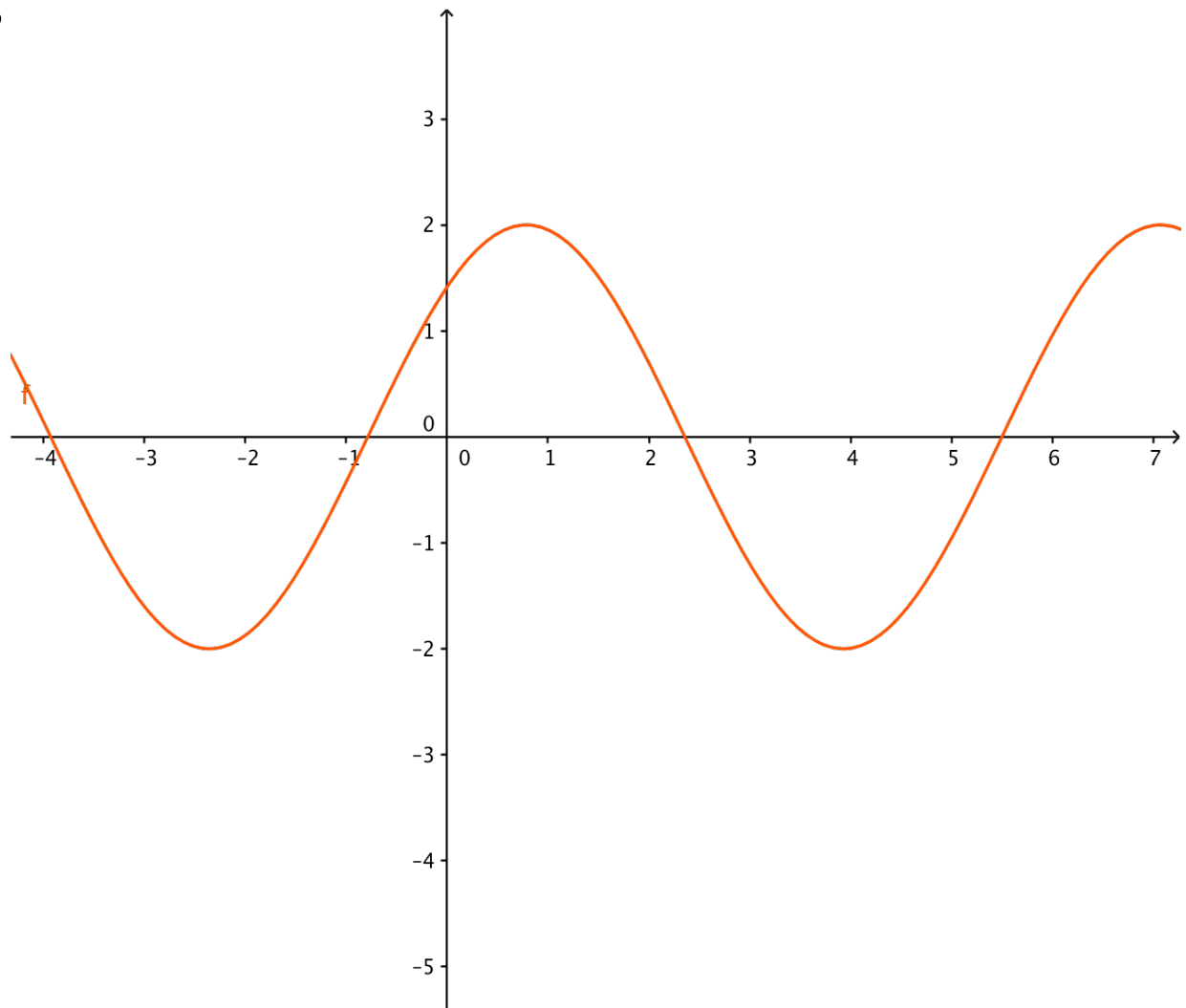
C $y = \sin(x - 3)$

D $y = \sin(3x)$

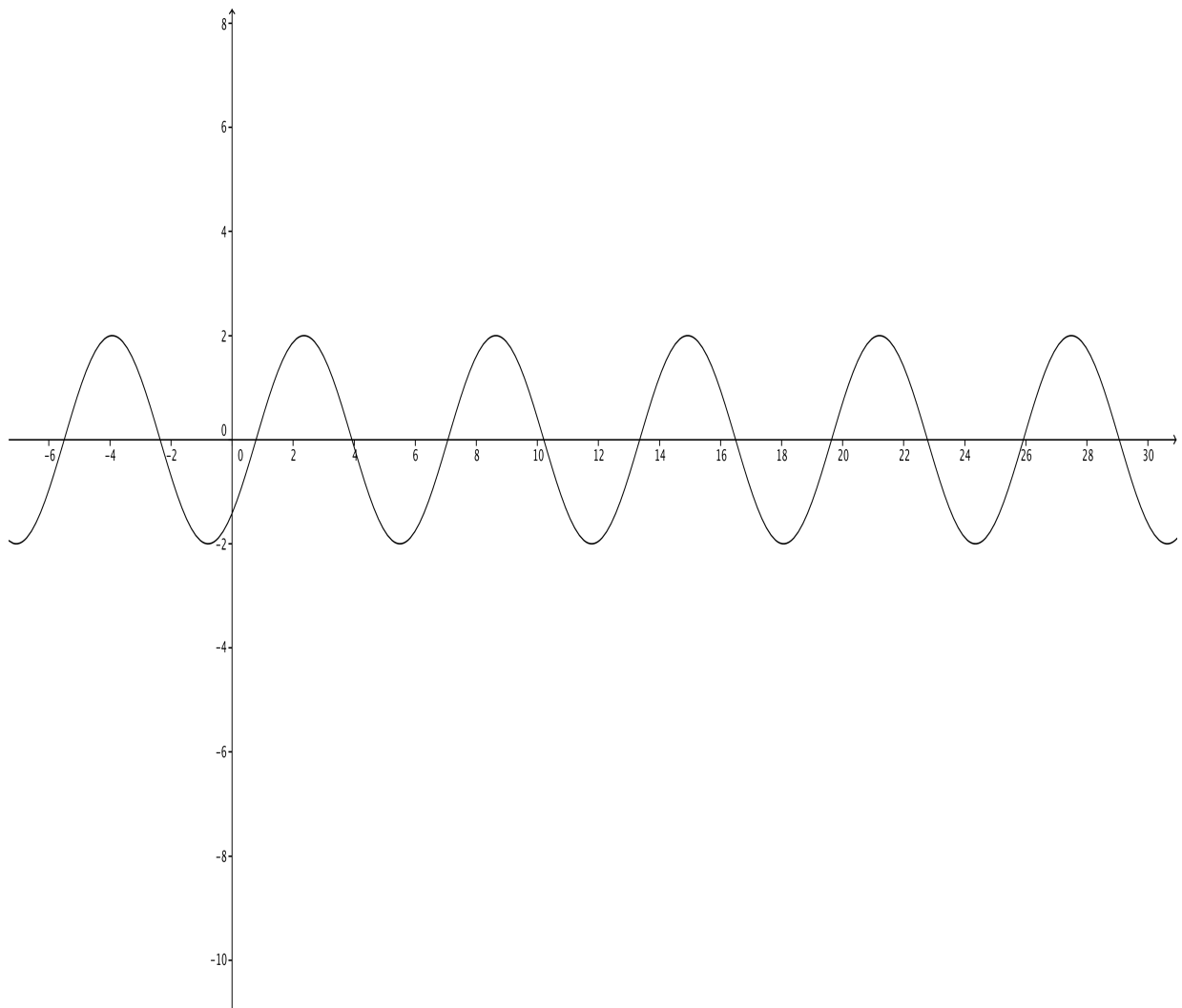
2 Quale dei seguenti grafici rappresenta la seguente funzione?

$y = 2 \cos(x - \pi/4)$

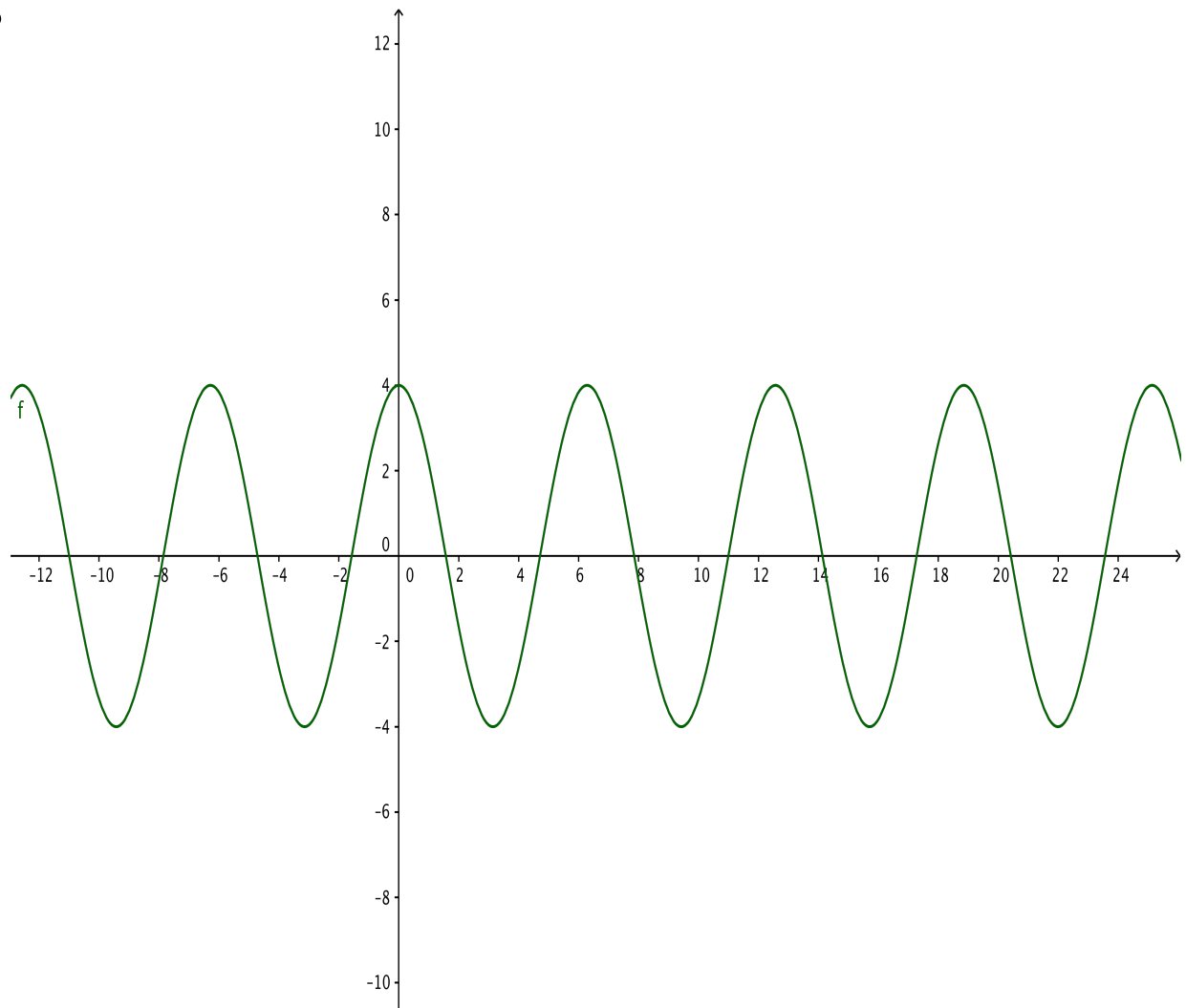
A



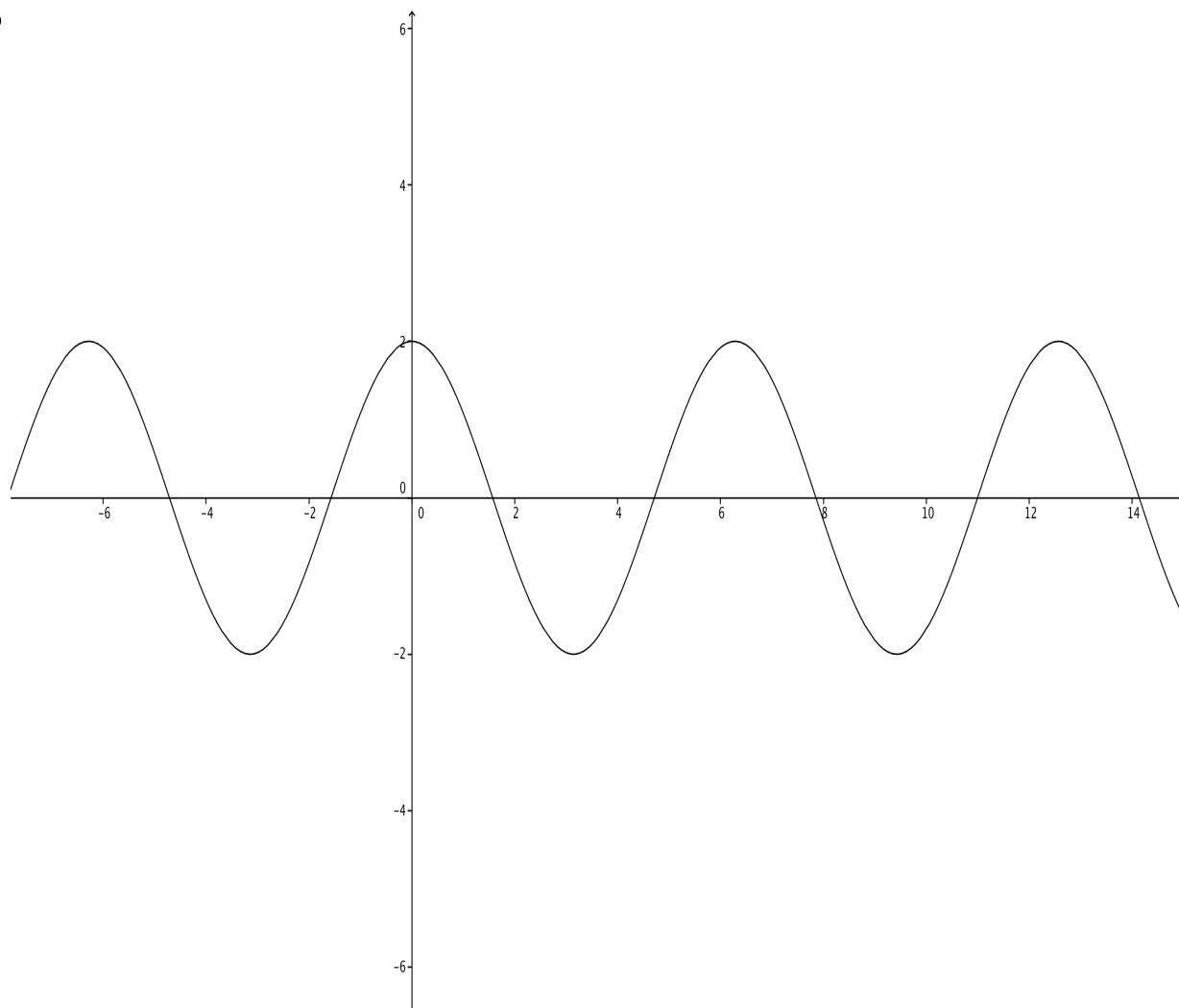
E)



©



D



3 La soluzione della seguente equazione

$$\sqrt{3}\cos x - \sin x + \sqrt{3} = 0$$

A impossibile

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

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

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

4 La soluzione della seguente equazione

$$2\sin^2 x + \sqrt{3}\sin x \cos x - \cos^2 x = 2$$

A $\forall x$

C $x = 2k\pi \vee x = \arctan 4 + k\pi$

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

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

5 Individua la soluzione della seguente equazione

$$\tan\left(2x + \frac{3}{7}\pi\right) = -\tan(6x - \pi)$$

A $x = \frac{11}{20}\pi + k\pi$

B $x = \frac{\pi}{14} + k\frac{\pi}{8}$

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

D $x = \frac{3}{14}\pi + k\pi$

6 Una sola equazione ha come soluzioni:

$$x = 33^\circ + k360^\circ \vee x = 123^\circ + k360^\circ$$

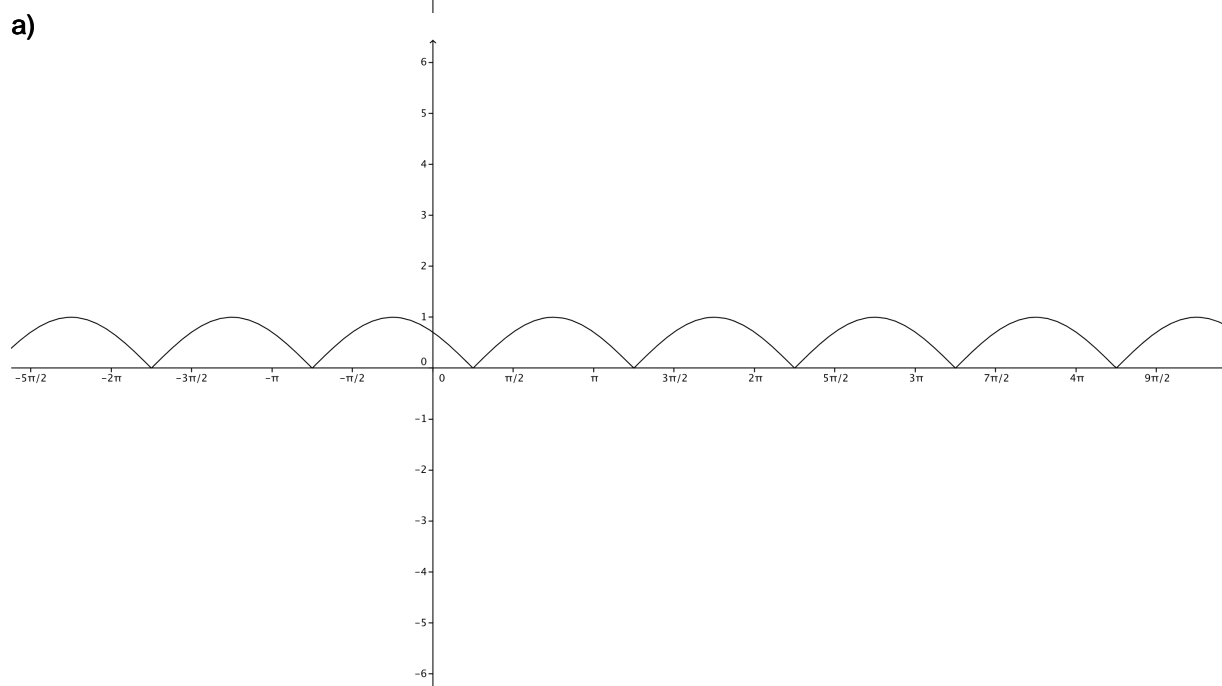
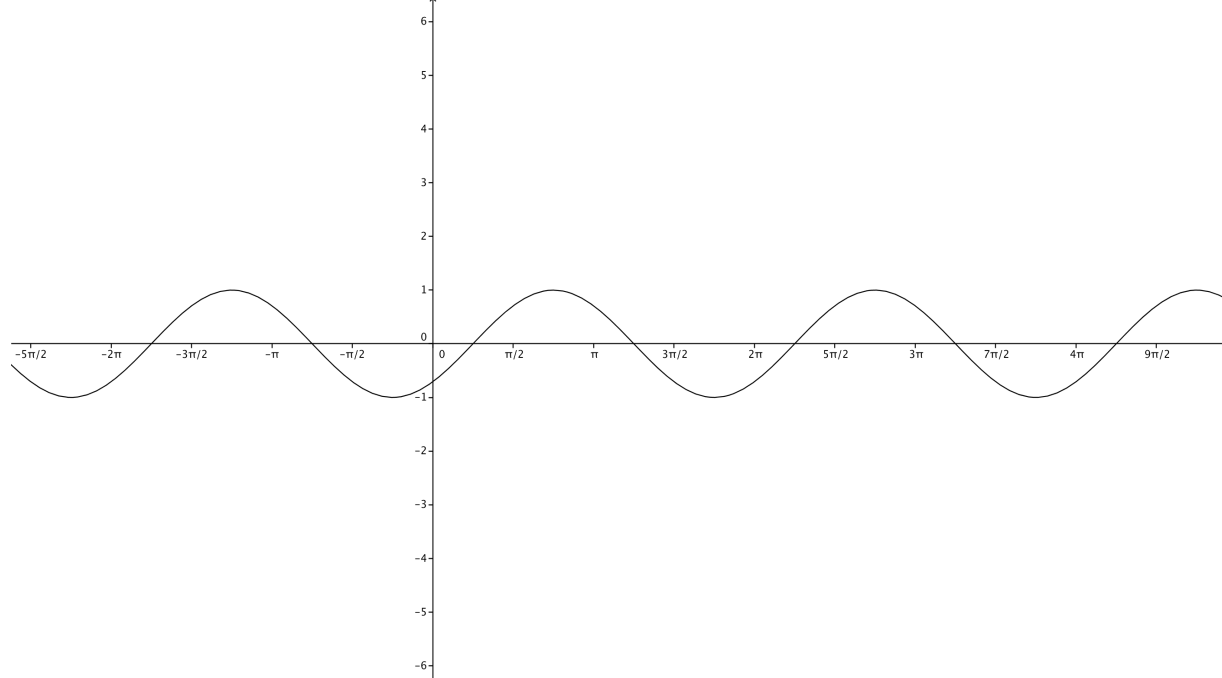
Ⓐ $2\sin(x + 12^\circ) = \sqrt{2}$

Ⓑ $2 \cos(x + 12^\circ) = -\sqrt{2}$

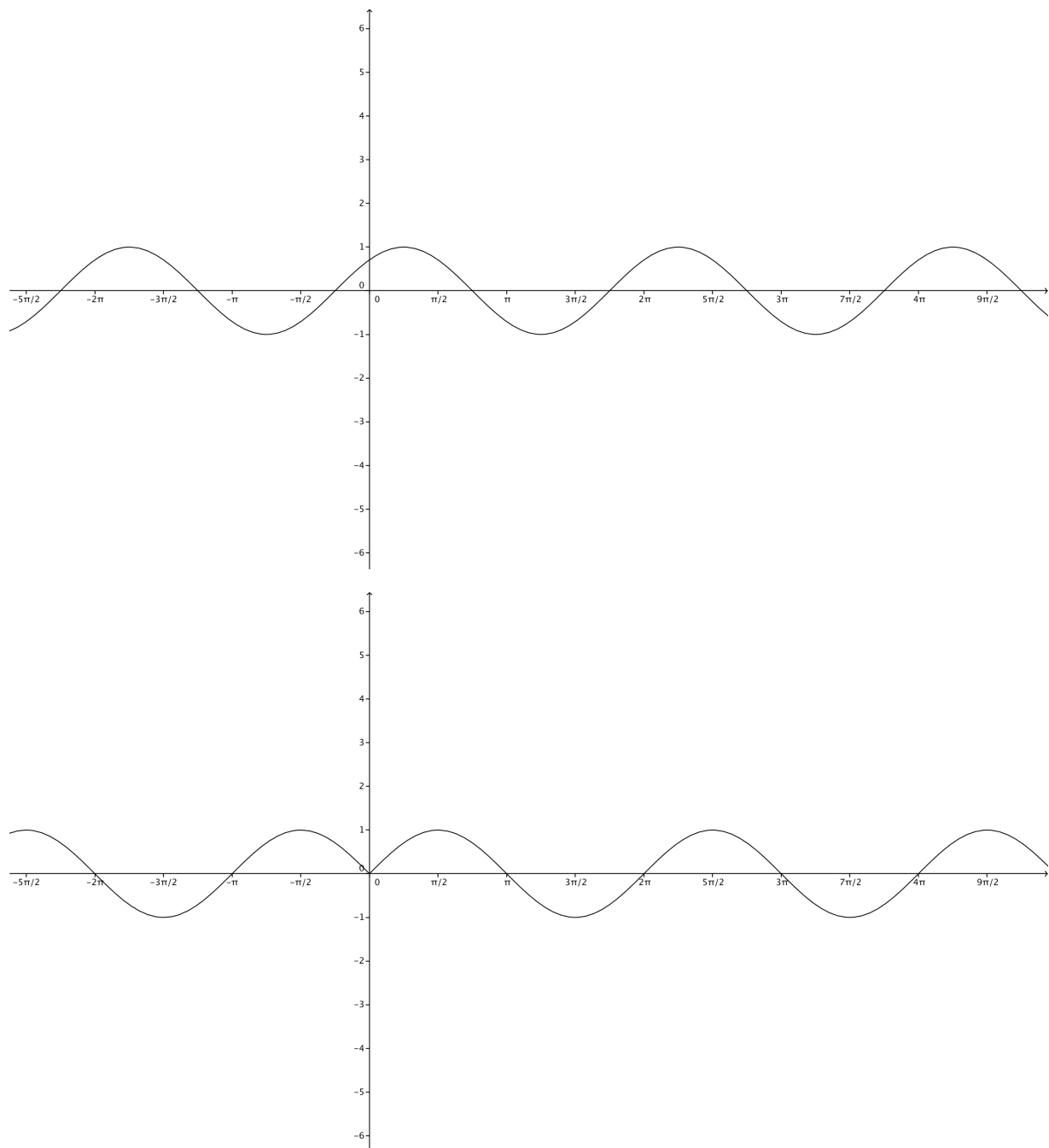
Ⓒ $\sin x = -2$

Ⓓ $5\sin x = 3$

7 Associa a ciascun grafico la rispettiva funzione:



b)
c)



d)

A $y = |\sin(x - \pi/4)|$

B $y = \sin(x - \pi/4)$

C $y = \sin(x + \pi/4)$

D $y = \sin|x|$