The trigonometric functions

The graph of $y = \cos x$ (1)

QUESTION **1**   Complete:
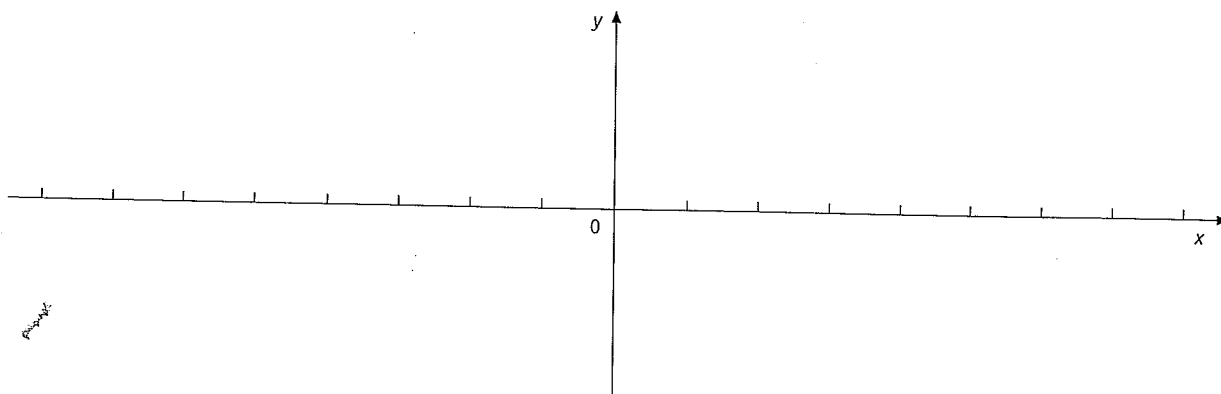
a   The domain of the function $y = \cos x$ is _____

b   The range of the function $y = \cos x$ is _____

c   The graph of $y = \cos x$ has period _____ and amplitude _____

d   The graph of $y = a \cos nx$ has period _____ and amplitude _____

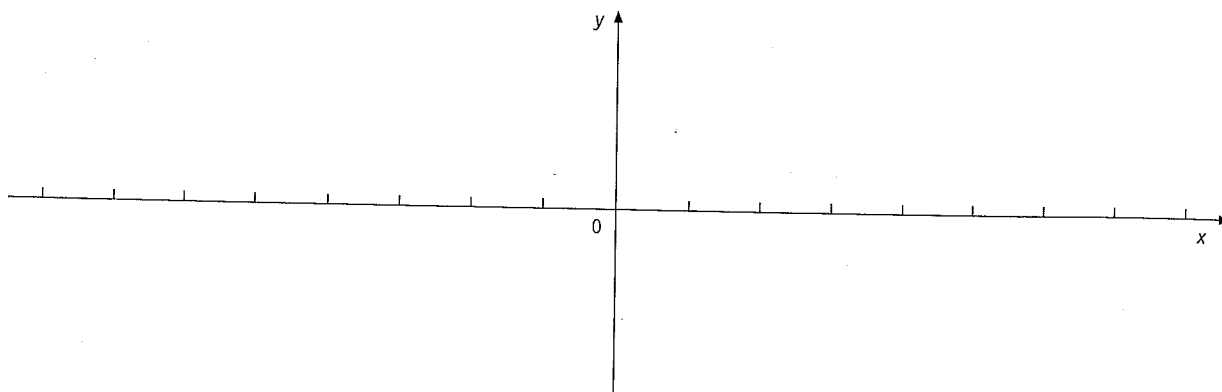QUESTION **2**   Write down the period and amplitude:

a $y = \cos 2x$ b $y = 2 \cos x$ c $y = \frac{1}{4} \cos 4x$ d $y = -4 \cos \frac{x}{4}$

   Period   Period   Period   Period

   _____   _____   _____   _____

   Amplitude   Amplitude   Amplitude   Amplitude

   _____   _____   _____   _____

QUESTION **3**   Sketch the graph of:

a $y = 3 \cos x$

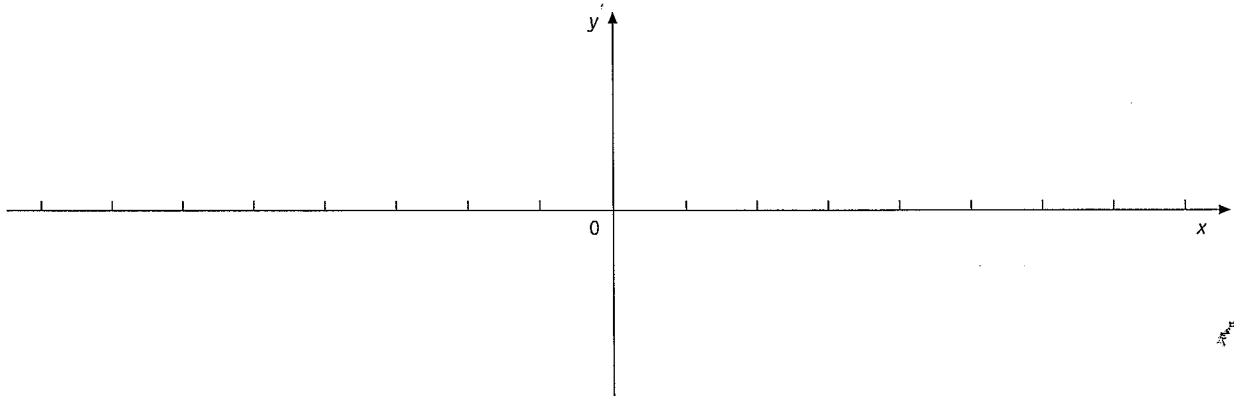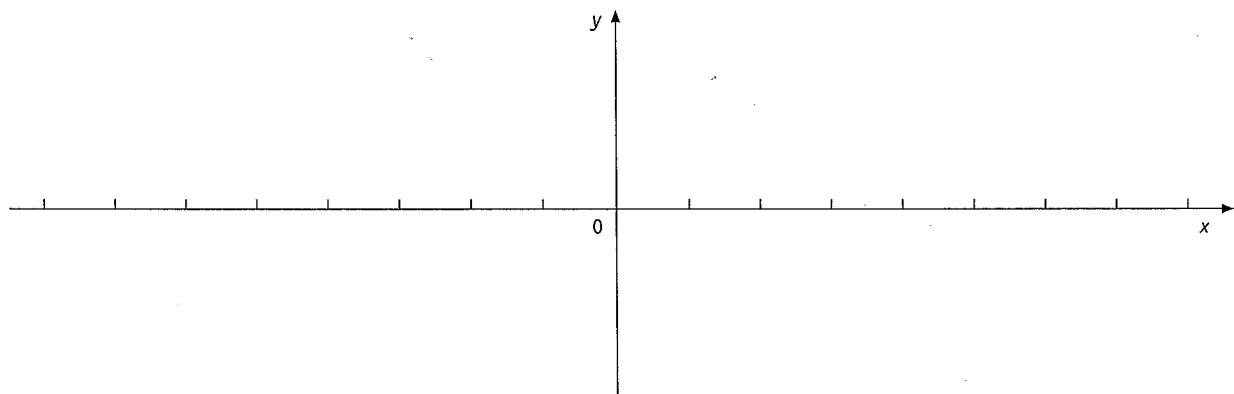b $y = \cos 3x$

The trigonometric functions

The graph of $y = \cos x$ (2)

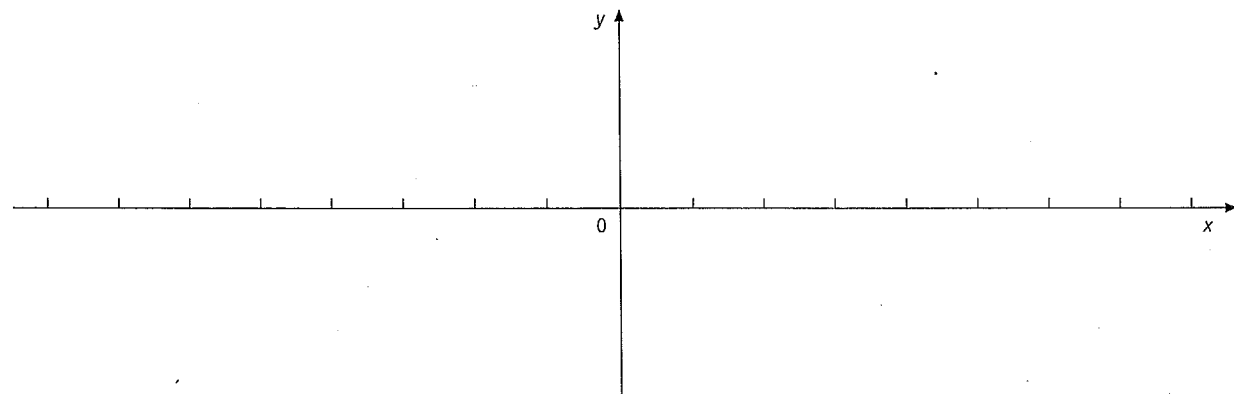QUESTION **1**   Sketch the graph of:

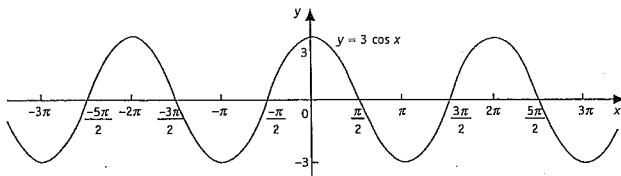**a** $y = 2 \cos 2x$

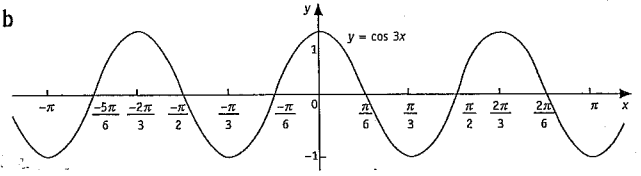**b** $y = \dfrac{1}{2} \cos \dfrac{x}{4}$

c $y = 1 - \cos x$

1 a all real x b $-1 \le y \le 1$ c 2π, 1 d $\dfrac{2\pi}{n}$, a 2 a π, 1 b 2π, 2 c $\dfrac{\pi}{2}, \dfrac{1}{4}$ d 8π, 4

3 a

$y = 3\cos x$

b

$y = \cos 3x$

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1 a

$y = 2\cos 2x$

b

$y = \dfrac{1}{2}\cos\dfrac{x}{4}$

c

$y = 1 - \cos x$