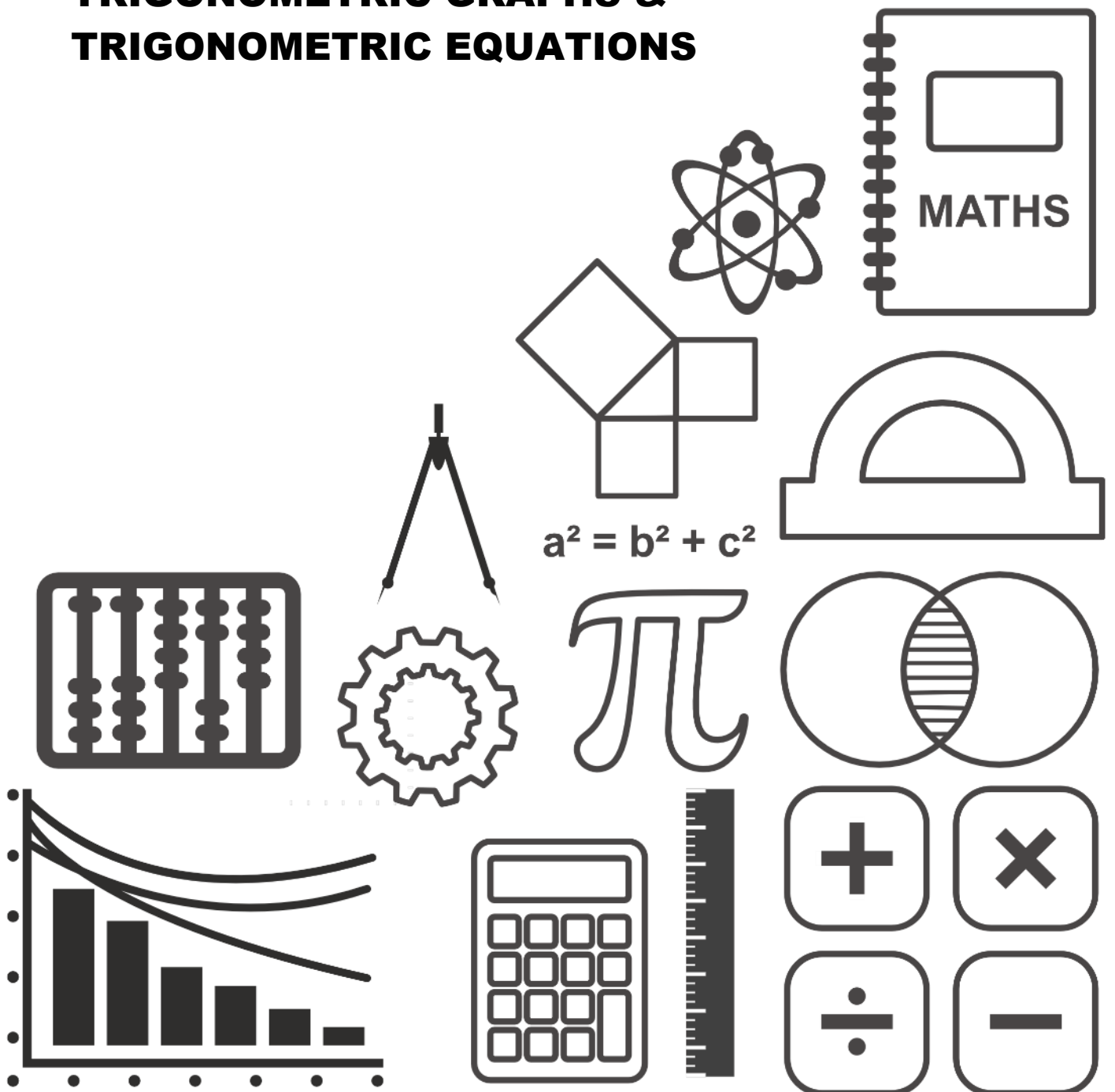
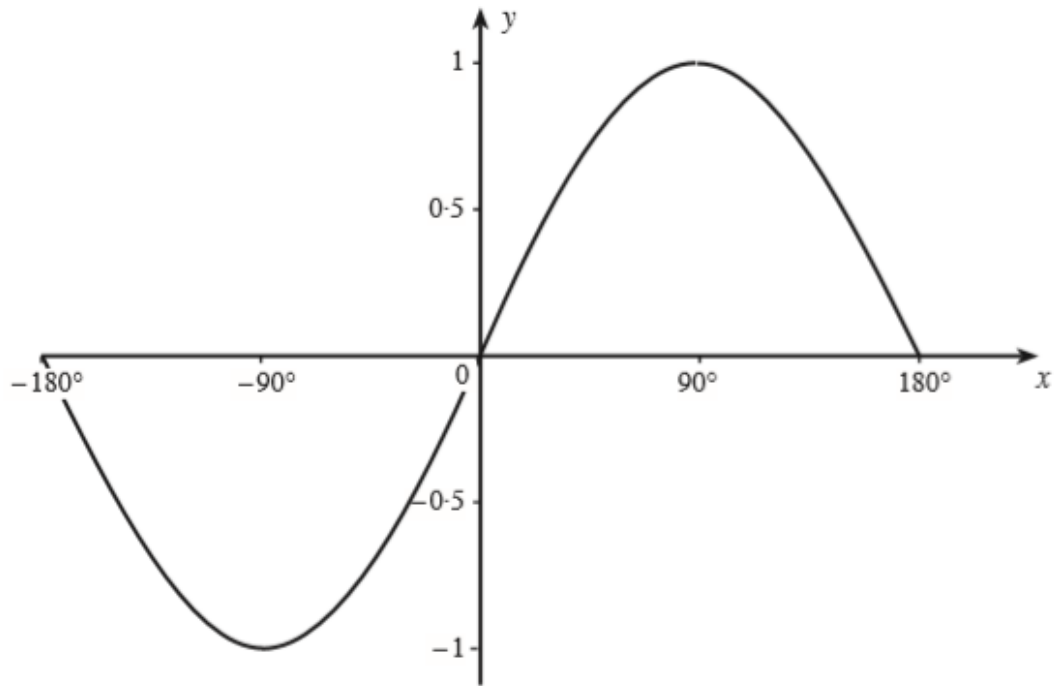


MATHSDIY

GCSE TOPIC BOOKLET TRIGONOMETRIC GRAPHS & TRIGONOMETRIC EQUATIONS



1. The diagram shows a sketch of the graph $y = \sin x$.



Using your calculator, find the values of x in the range $-180^\circ \leq x \leq 180^\circ$ which satisfy the equation $\sin x = 0.2$.

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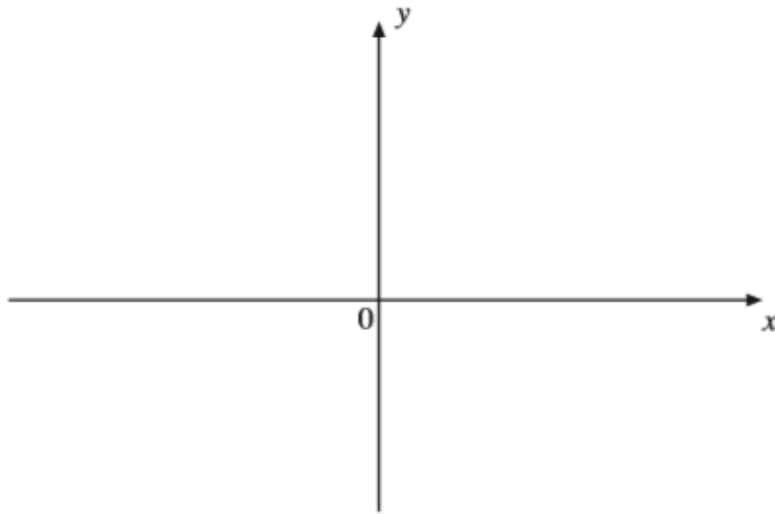
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[2]

2. (a) Using the axes below, **sketch** the graph of $y = \cos x$ for values of x from -180° to 180° . [2]



- (b) Find **all** solutions of the following equation in the range -180° to 180° .

$$\cos x = -0.19$$

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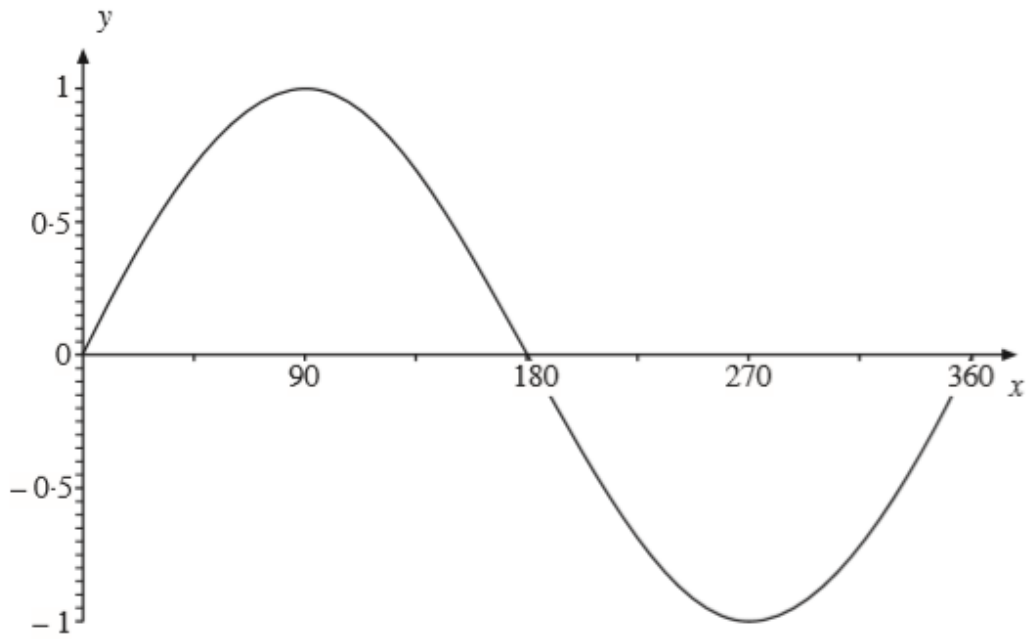
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[2]

3. The diagram below shows the sketch of $y = \sin x$ for values of x from 0° to 360° .



Find all solutions of the following equation in the range 0° to 360° .

$$\sin x = -0.454$$

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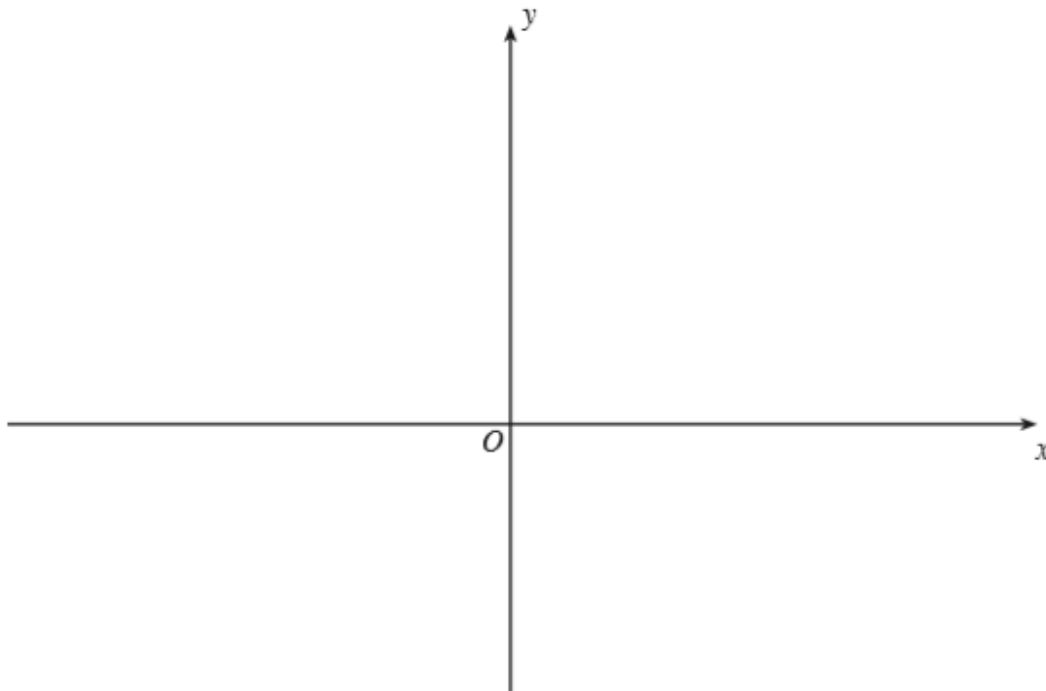
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[2]

4. (a) Using the axes below, **sketch** the graph of $y = \sin x$ for values of x from -180° to 180° . [2]



- (b) Find all solutions of the following equation in the range -180° to 180° .

$$\sin x = -0.6294$$

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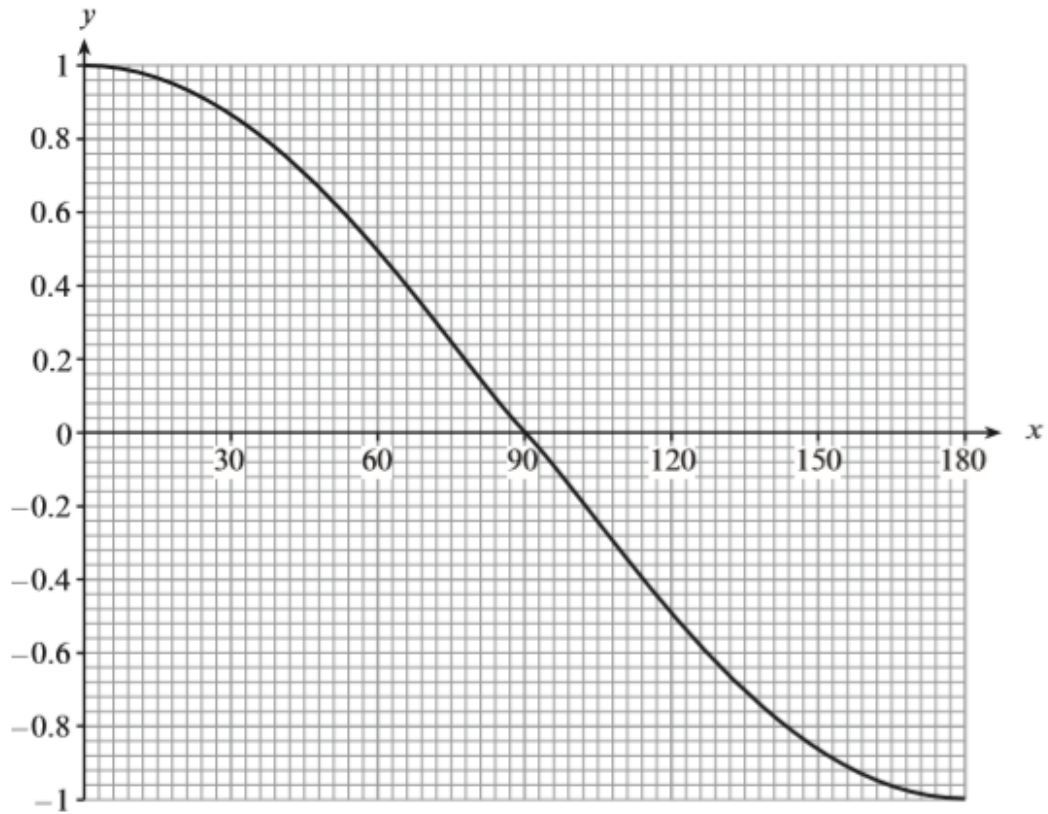
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[2]

5. The graph of $y = \cos x$ for the values of x between 0° and 180° is given below.



Find all the solutions of the following equations in the range -180° to 180° .

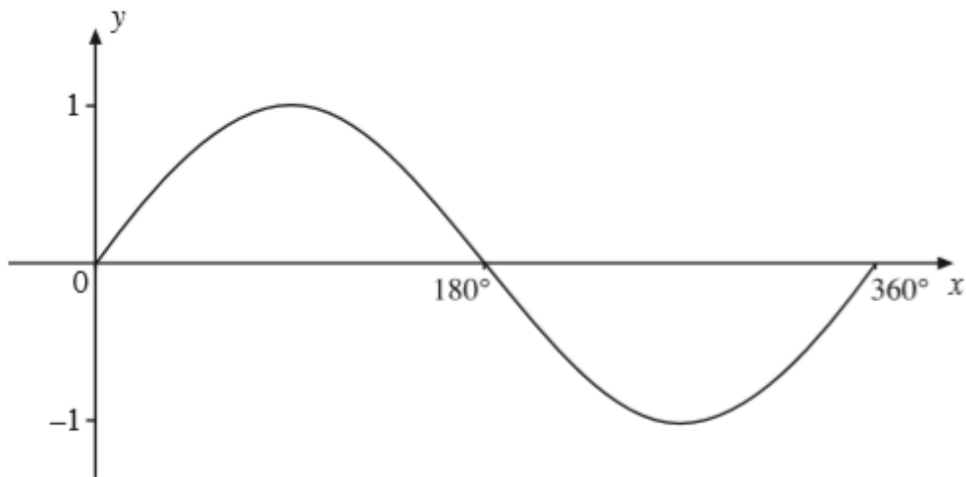
(a) $\cos x = 0$

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[2]

(b) $\cos x = -0.6$

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[2]

6. (a) The diagram shows a sketch of $y = \sin x$ for values of x from 0° to 360° .



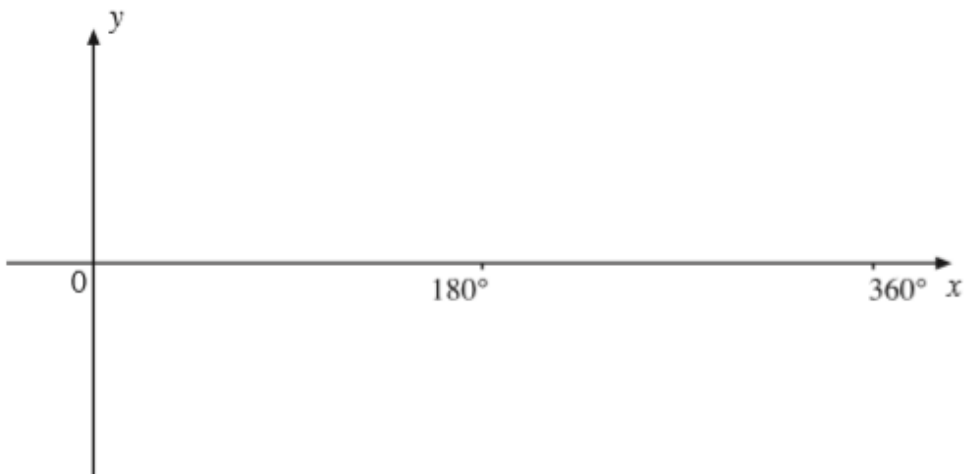
Given that $\sin 43^\circ = 0.682$ write down all the solutions of the equation $\sin x = -0.682$ for values of x from 0° to 360° .

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[2]

- (b) Sketch the graph of $y = \sin x + 1$ for values of x from 0° to 360° .



[2]

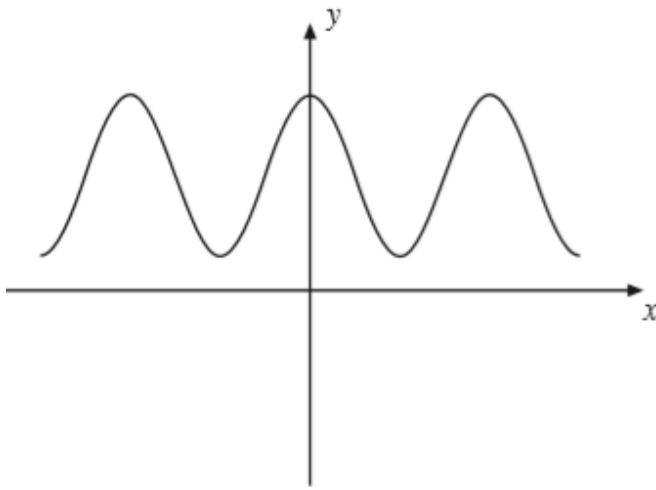
(c) Sketch the graph of $y = \tan x$ for values of x from 0° to 360° .



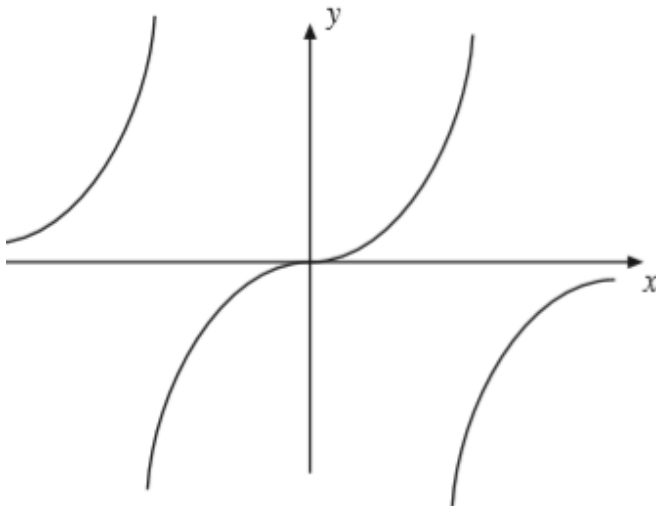
[2]

7. Match each of the following equations to the appropriate sketch by writing the equations in the spaces below.

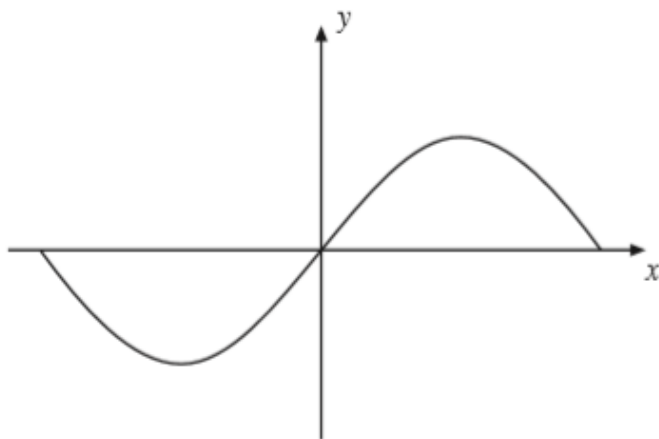
$y = \sin x$ $y = \tan x$ $y = 2 + \cos x$



Equation



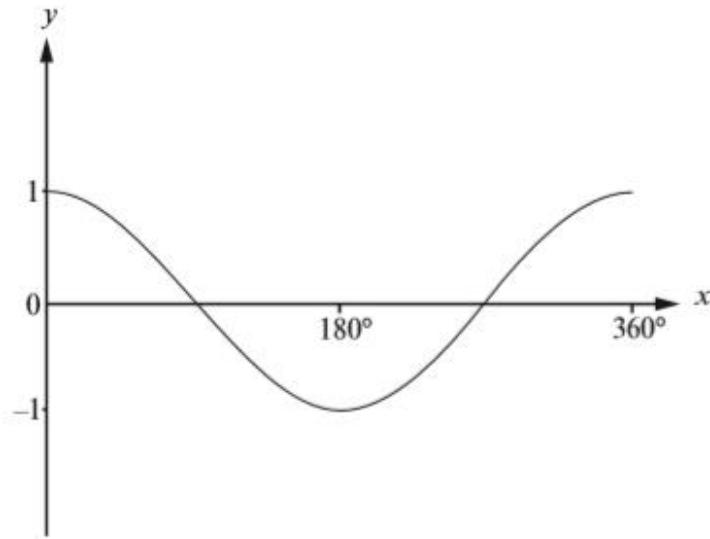
Equation



Equation

[2]

8. (a) The diagram shows a sketch of $y = \cos x$ for values of x from 0° to 360° .



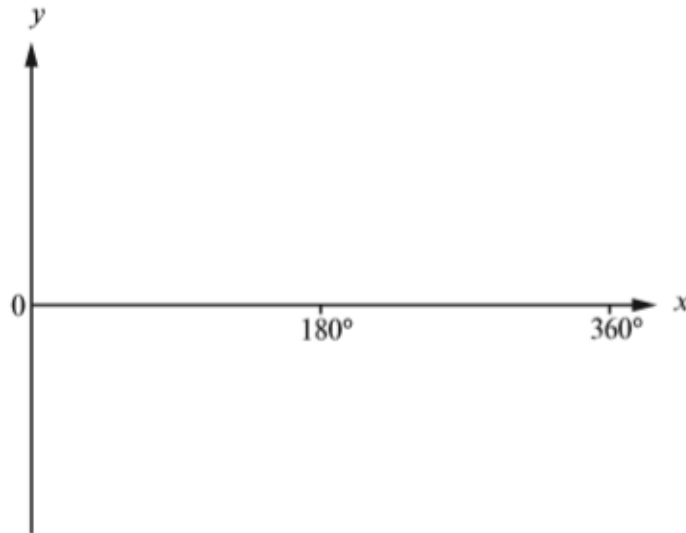
Given that $\cos 58^\circ = 0.5299$, write down all the solutions of the equation $\cos x = -0.5299$ for values of x from 0° to 360° .

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[2]

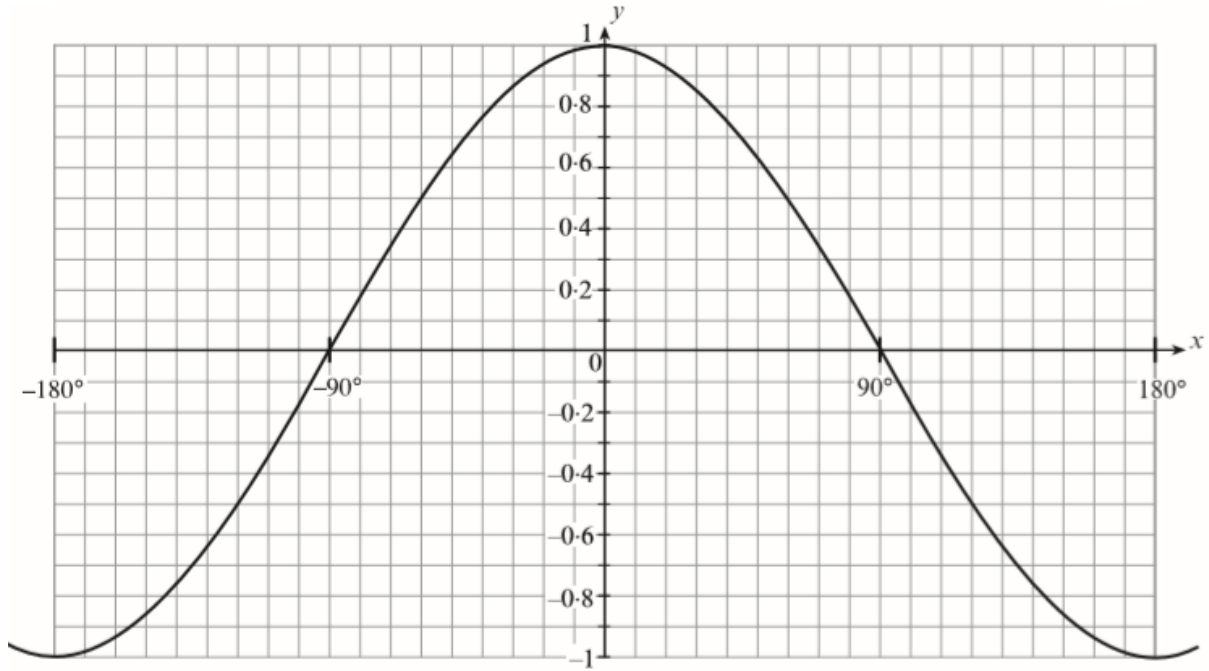
- (b) Sketch the graph of $y = \cos x + 1$ for values of x from 0° to 360° .



[2]

9.

(b) The diagram shows a sketch of $y = \cos x$.



Find the values of x in the range $-180^\circ \leq x \leq 180^\circ$ which satisfy the equation $\cos x = 0.5$.

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[2]