Maths

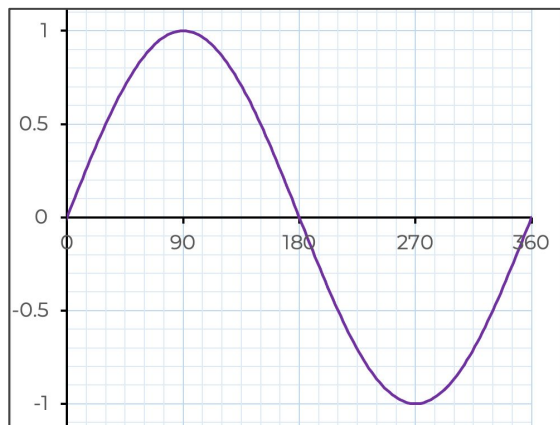# Solve trig equations involving $\sin x$ between 0 and 360

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Please note this downloadable resource contains colour font and images

Solve trig equations involving $\sin x$ between 0 and 360

1. Here is the graph of $y = \sin x$
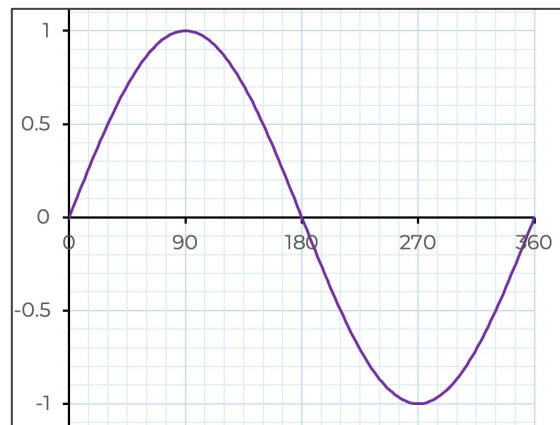

Use the graph to estimate solutions.

a) $\sin x = 0.5$ b) $\sin x = -0.5$

c) $\sin x = 0.9$ d) $\sin x = -0.6$

2. Here is the graph of $y = \sin x$

Use the graph to estimate solutions.

a) $\sin 2x = 0.5$ b) $\sin 2x = -0.5$

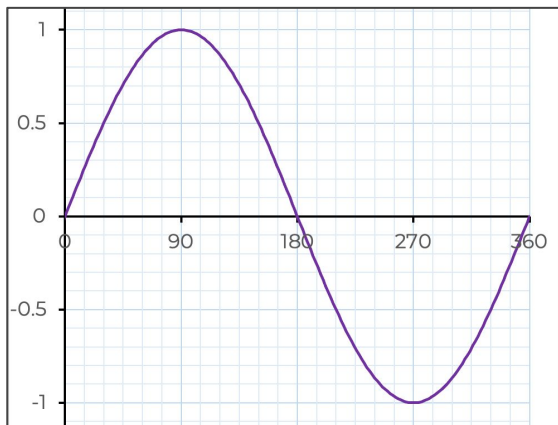c) $\sin 5x = 0.9$ d) $2 \sin x = -0.6$

Answers

Solve trig equations involving $\sin x$ between 0 and 360

1. Here is the graph of $y = \sin x$

Use the graph to estimate solutions.

a) $\sin x = 0.5$
   $x = 30, x = 150$

b) $\sin x = -0.5$
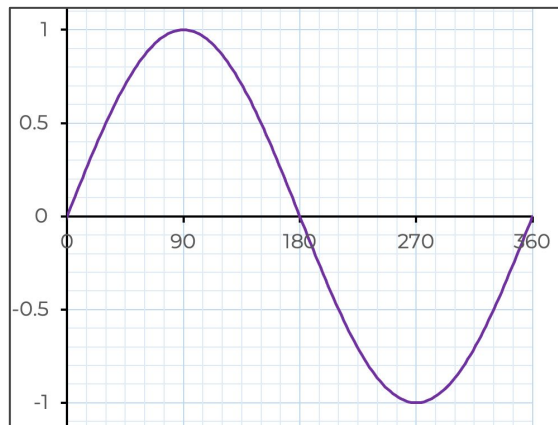 $x = 210, x = 330$

c) $\sin x = 0.9$
   $x = 62, x = 118$

d) $\sin x = -0.6$
   $x = 215, x = 323$

2. Here is the graph of $y = \sin x$

Use the graph to estimate solutions.

a) $\sin 2x = 0.5$
   $x = 15, x = 75$

b) $\sin 2x = -0.5$
   $x = 105, x = 165$

c) $\sin 5x = 0.9$
   $x = 12.4, x = 23.6$

d) $2 \sin x = -0.6$
   $x = 195, x = 345$