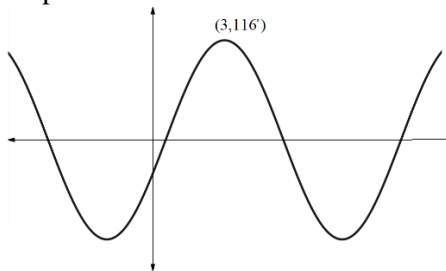


3 Exam Questions

Yr 1 – Trigonometric Graphs

- (1) (a) Given that k is a positive constant, sketch the graph of:
 $y = k \cos 2x$ for $0 \leq x \leq 360$
labelling any points of where the curve meets the coordinate axes.
- (b) State fully the transformations that maps the graph of $y = \cos x$ to the graph of $y = k \cos 2x$.
- (c) Given that there are no solutions to the equation:
 $k \cos 2x = 8$, find the set of values for which k is valid.
- (2) Sketch the graph of:
 $y = 1 - \tan \theta$ for $0 \leq \theta \leq 360$
showing any asymptotes and the coordinates where the curve meets the y axis.
- (3) The diagram below shows part of the graph of $y = a \sin(x - b)$ where a and b are positive constants.

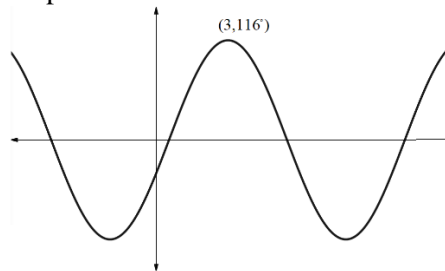


The curve has a local maximum at the point (3, 116). State the value of a and a possible value of b given that x is measured in degrees.

3 Exam Questions

Yr 1 – Trigonometric Graphs

- (1) (a) Given that k is a positive constant, sketch the graph of:
 $y = k \cos 2x$ for $0 \leq x \leq 360$
labelling any points of where the curve meets the coordinate axes.
- (b) State fully the transformations that maps the graph of $y = \cos x$ to the graph of $y = k \cos 2x$.
- (c) Given that there are no solutions to the equation:
 $k \cos 2x = 8$, find the set of values for which k is valid.
- (2) Sketch the graph of:
 $y = 1 - \tan \theta$ for $0 \leq \theta \leq 360$
showing any asymptotes and the coordinates where the curve meets the y axis.
- (3) The diagram below shows part of the graph of $y = a \sin(x - b)$ where a and b are positive constants.

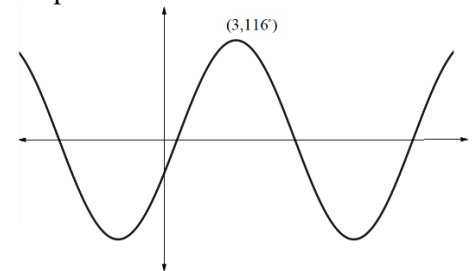


The curve has a local maximum at the point (3, 116). State the value of a and a possible value of b given that x is measured in degrees.

3 Exam Questions

Yr 1 – Trigonometric Graphs

- (1) (a) Given that k is a positive constant, sketch the graph of:
 $y = k \cos 2x$ for $0 \leq x \leq 360$
labelling any points of where the curve meets the coordinate axes.
- (b) State fully the transformations that maps the graph of $y = \cos x$ to the graph of $y = k \cos 2x$.
- (c) Given that there are no solutions to the equation:
 $k \cos 2x = 8$, find the set of values for which k is valid.
- (2) Sketch the graph of:
 $y = 1 - \tan \theta$ for $0 \leq \theta \leq 360$
showing any asymptotes and the coordinates where the curve meets the y axis.
- (3) The diagram below shows part of the graph of $y = a \sin(x - b)$ where a and b are positive constants.



The curve has a local maximum at the point (3, 116). State the value of a and a possible value of b given that x is measured in degrees.