## Unit 6 Lesson 16: Features of Trigonometric Graphs (Part 2)

### 1 Which One Doesn't Belong: Graph Periods (Warm up)

#### Student Task Statement

Which one doesn't belong?

A.



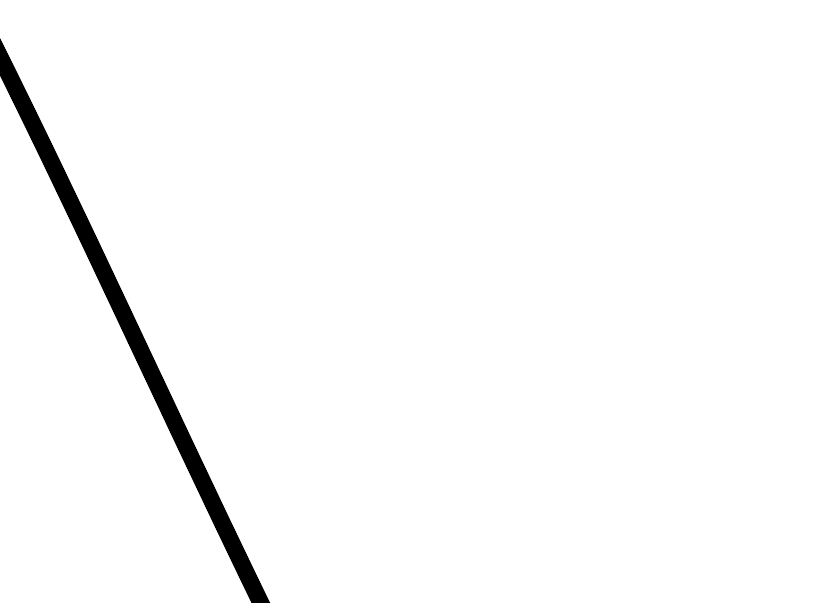
B.



C.



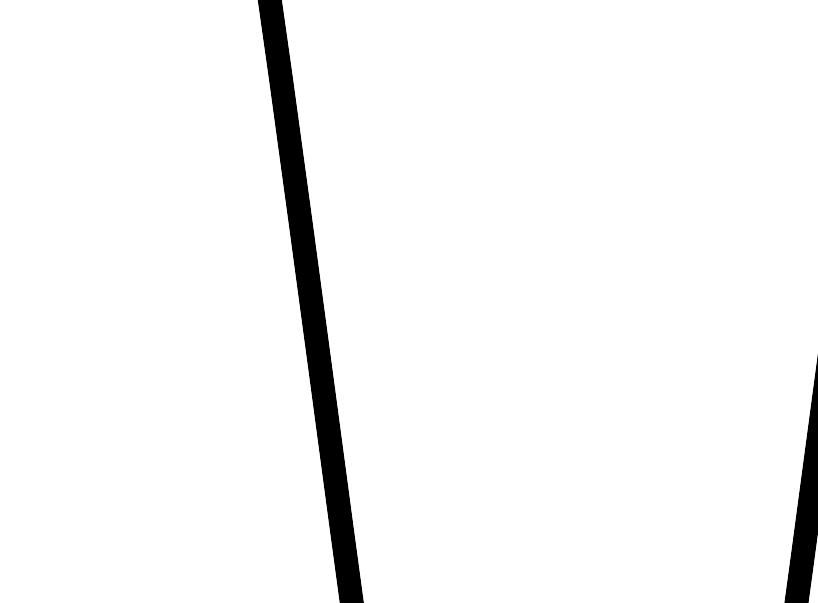
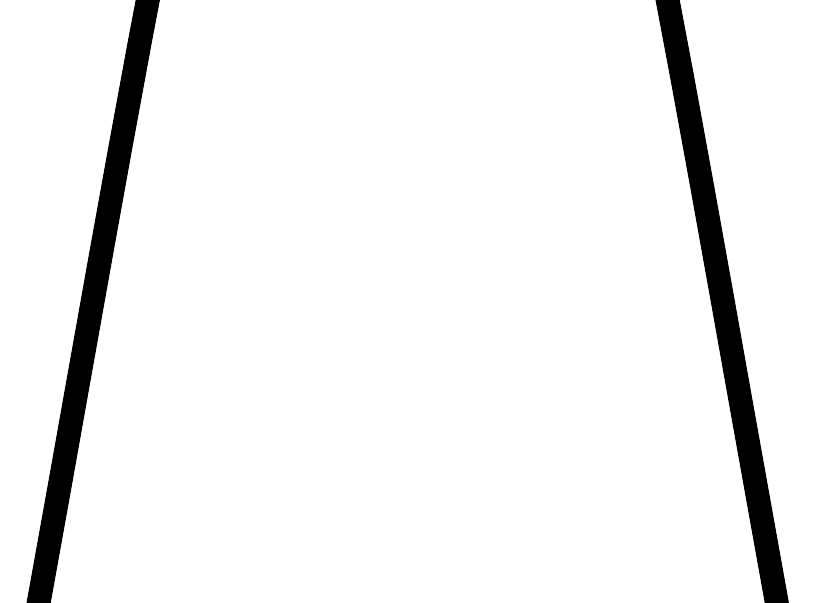
D.



### 2 Any Period

#### Student Task Statement

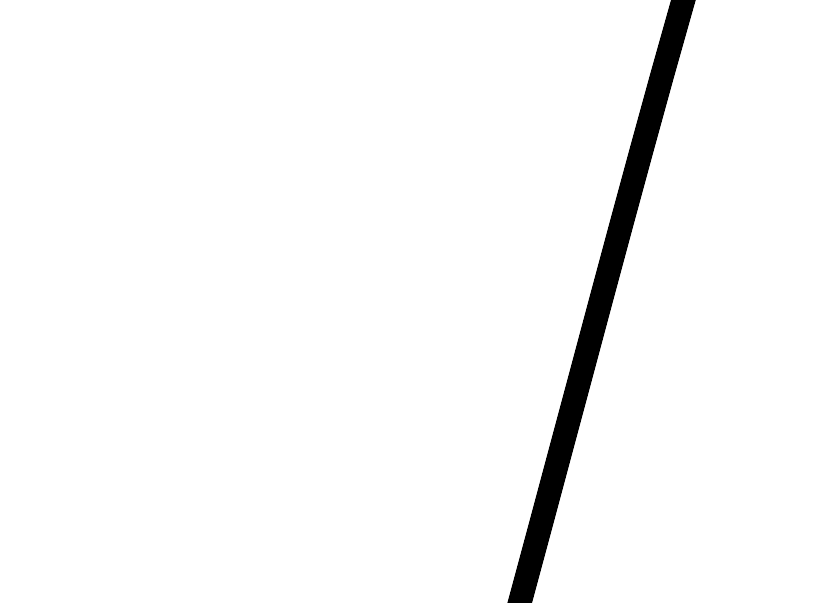
1. For each graph of a trigonometric function, identify the period.

* A
* 
* B
* 
* C
* 
* D
* 

1. Here are some trigonometric functions. Find the period of each function.

|  |  |
| --- | --- |
| * function | * period |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. What is the period of the function ? Explain your reasoning.
2. Identify a possible equation for a trigonometric function with this graph.

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### 3 Around the World’s Largest Ferris Wheel

#### Student Task Statement



The world’s tallest Ferris wheel is in Las Vegas. The height in feet of one of the passenger seats on the Ferris wheel can be modeled by the function  where time is measured in minutes after 8:00 a.m.

1. What is the diameter of the Ferris wheel? Explain how you know.
2. How long does it take the Ferris wheel to make a complete revolution? Explain how you know.
3. Give at least three different times when the passenger seat modeled by  is at its lowest point. Explain how you know.
4. Sketch a graph of the height of the seat on the Ferris wheel for at least two full revolutions.



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