# TOPIC 12-2 Independent Practice and Applications

1. Match each function to its graph.

1. 

2. 

3. 

4. 

5. 

GRAPHS:

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1. Match each function to its indicated characteristics.

Functions:

1. 

2. 

3. 

4. 

5. 

Characteristics:

\_\_\_\_\_ Period = ; x-intercepts at  ; reflection over the x-axis; vertical asymptotes at 

\_\_\_\_\_ Period = ; amplitude = 5; centerline of y = -3; minimum at; maximum at.

\_\_\_\_\_ Period =; centerline of y = 2; vertical asymptotes at 

\_\_\_\_\_ Period = ; amplitude = 2; x-intercepts at 

\_\_\_\_\_ Period = ; centerline at y = 5; horizontal shift of  units; 

1. Applications.
2. The number of daylight hours, D, in the city of Worcester, Massachusetts, where x is the number of days after January 1 (), may be calculated by the function:



* 1. What is the period of this function?
  2. What is the amplitude of this function?
  3. What is the horizontal shift?
  4. What is the phase shift?
  5. What is the vertical shift?
  6. How many hours of sunlight will there be on February 21st of any year?

1. The height, *H* (in feet) above the ground of a person riding a Ferris wheel at any time *t* (in seconds), , may be modeled by the equation:



1. Create a table of values for the height above the ground.
2. What are the minimum and maximum heights above the ground?