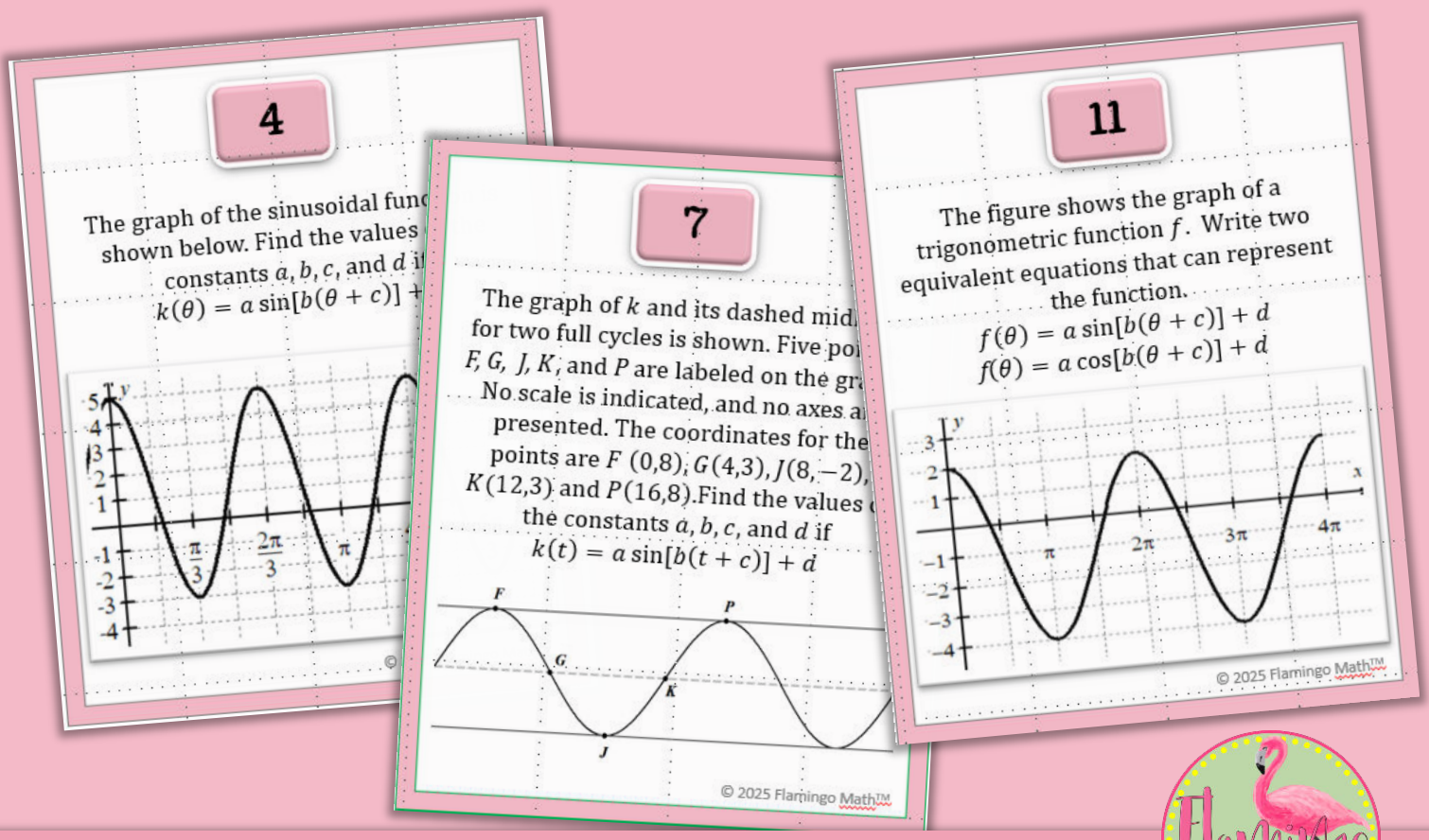
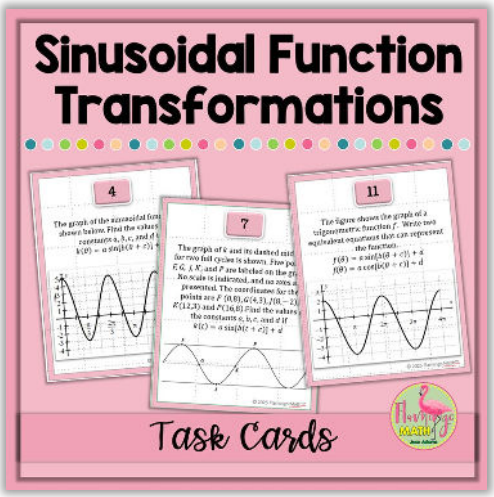
Sinusoidal Function Transformations



Task Cards

Flamingo MATH
Jean Adams

Sinusoidal Function Transformations Task Cards



KEY CONCEPTS/TOPICS:

1. Identify amplitude, vertical shift, period and phase shift
2. Write equations of transformations of sine and cosine functions.

GENERAL DIRECTIONS:

Students are given a variety of questions related to transformations of functions, characteristics, and writing equations.

Product Overview

Sinusoidal Function Transformations Activity

Here's a great activity to reinforce **Sinusoidal Function Transformations**, There are 12 task cards. The activity contains a recording sheet to keep students accountable for their knowledge.

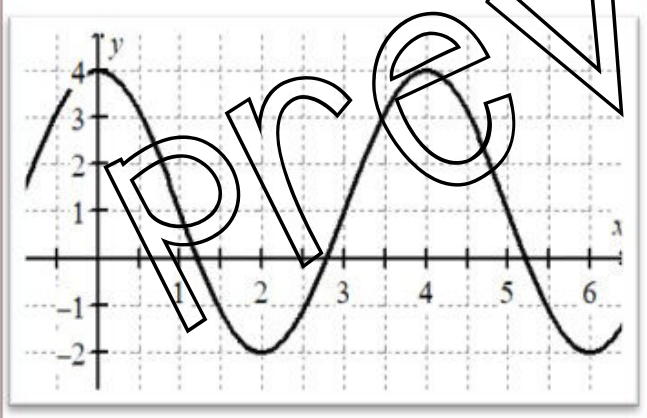
This **Sinusoidal Function Transformation Task Card Activity** will help your **AP Precalculus** students understand the properties of basic transformations. There are 12 task cards in the activity where students can review the concepts related to transformations of sine and cosine functions. There is a student recording sheet to help organize work and accountability.

Copy the task cards on card stock and laminate for durability. An answer key and a student recording sheet is included.

Please visit my store for more engaging task card activities.

1

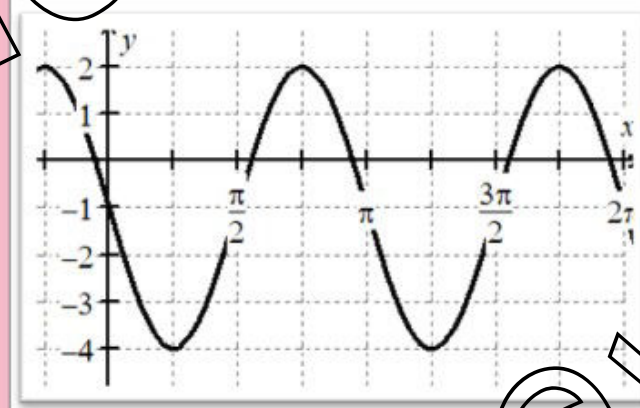
The graph of the sinusoidal function is shown below. Find the values of the constants $a, b,$ and d if $f(\theta) = a\cos(b\theta) + d$



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2

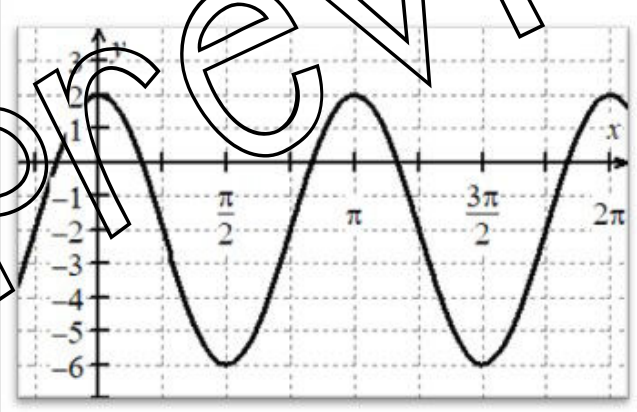
The graph of the sinusoidal function is shown below. Find the values of the constants $a, b,$ and d if $g(\theta) = a\ \sin(b\theta) + d$



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3

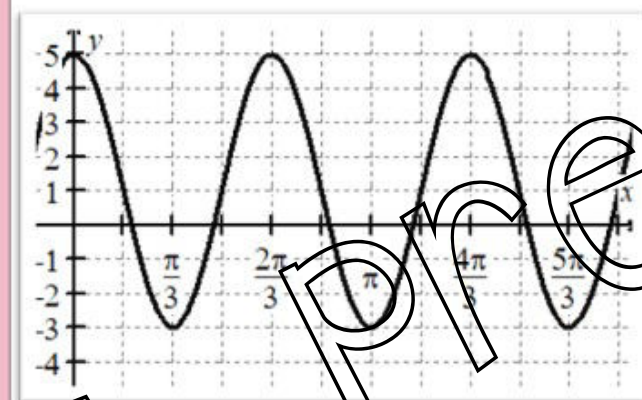
The graph of the sinusoidal function is shown below. Find the values of the constants $a, b, c,$ and d if $h(\theta) = a\cos[b(\theta + c)] + d$



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4

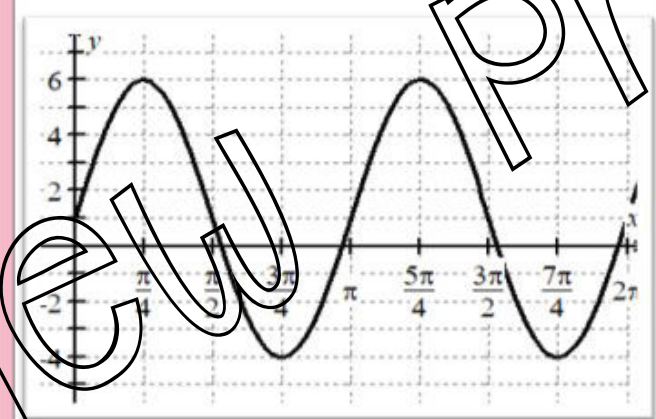
The graph of the sinusoidal function is shown below. Find the values of the constants $a, b, c,$ and d if $k(\theta) = a\sin[b(\theta + c)] + d$



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5

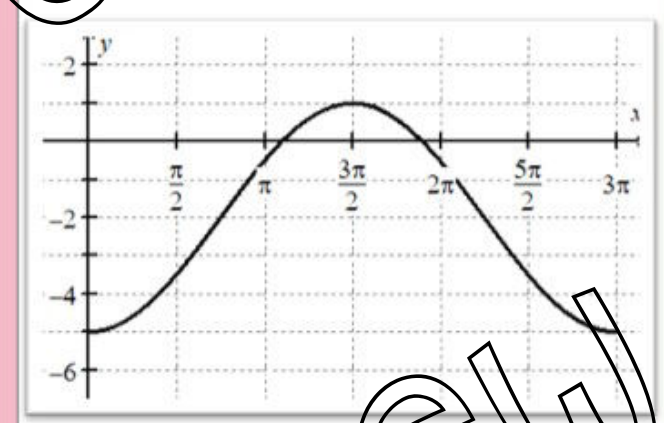
The graph of the sinusoidal function is shown below. Write an equation for $f(x)$ as a sine function.



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6

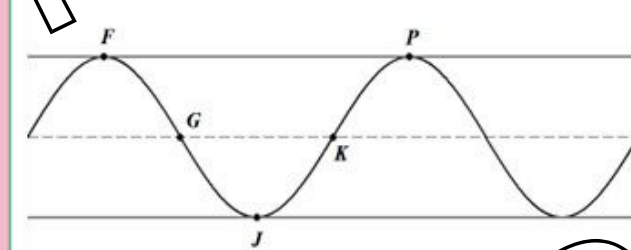
The graph of the sinusoidal function is shown below. Write an equation for $g(x)$ as a cosine function.



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7

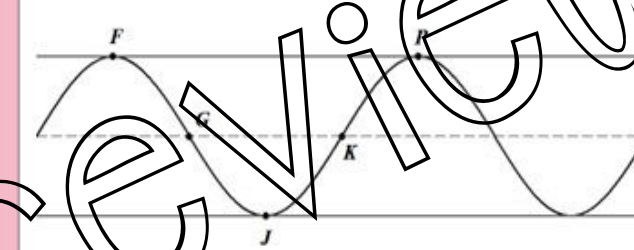
The graph of k and its dashed midline for two full cycles is shown. Five points, $F, G, J, K,$ and P are labeled on the graph. No scale is indicated, and no axes are presented. The coordinates for the points are $F(0,8), G(4,3), J(8,-2), K(12,3)$ and $P(16,8)$. Find the values of the constants $a, b, c,$ and d if $k(t) = a\sin[b(t + c)] + d$



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8

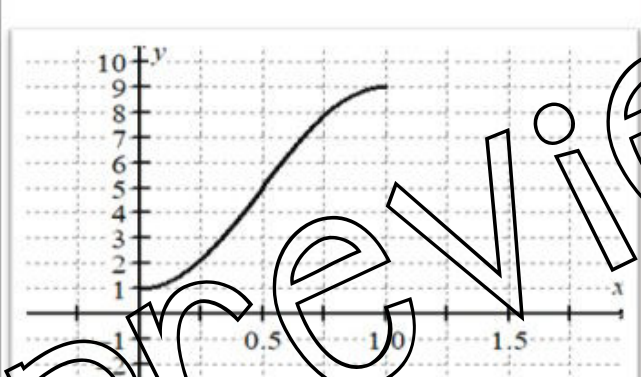
The graph of h and its dashed midline for two full cycles is shown. Five points, $F, G, J, K,$ and P are labeled on the graph. No scale is indicated, and no axes are presented. The coordinates for the points are $F(\pi, 20), G(2\pi, 14), J(3\pi, 8), K(4\pi, 14)$ and $P(5\pi, 20)$. Find the values of the constants $a, b, c,$ and d if $h(t) = a\cos[b(t + c)] + d$



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9

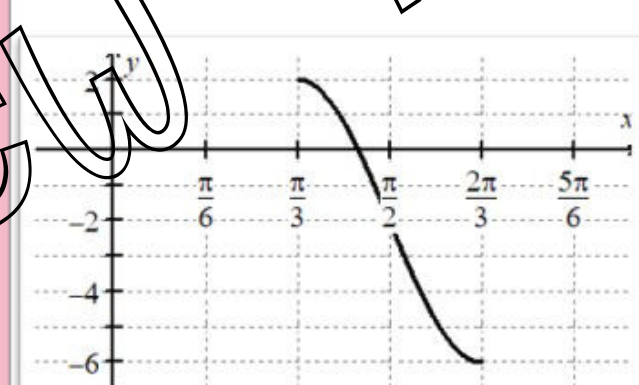
A portion of the periodic function $y = g(x)$ is shown. Use this graph to find the amplitude, period, and midline. Write an equation that can model the function.



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10

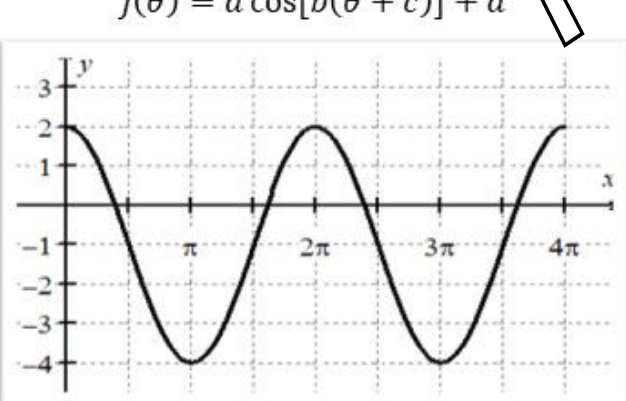
A portion of the periodic function $y = h(x)$ is shown. Use this graph to find the amplitude, period, and midline. Write an equation that can model the function.



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11

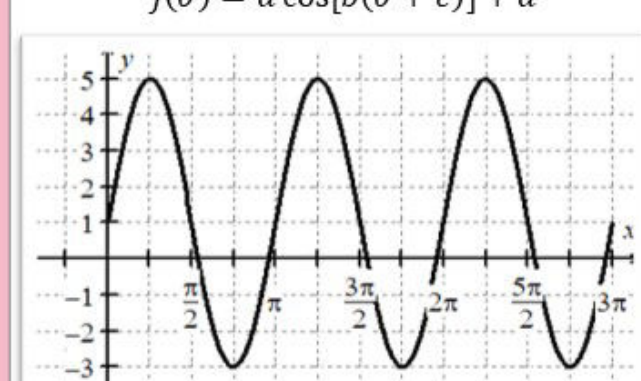
The figure shows the graph of a trigonometric function f. Write two equivalent equations that can represent the function.
$f(\theta) = a\sin[b(\theta + c)] + d$
$f(\theta) = a\cos[b(\theta + c)] + d$



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12

The figure shows the graph of a trigonometric function f. Write two equivalent equations that can represent the function.
$f(\theta) = a\sin[b(\theta + c)] + d$
$f(\theta) = a\cos[b(\theta + c)] + d$



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Sinusoidal Function Transformations

Name ______________________
Date ________________ Period_____

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.
11.	12.

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preview