Sample Quiz 02-06-Graphing Tangent Functions

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. **Tangent Graphs**
   Determine the period of the following tangent graph.
   ![Tangent Graph]

   a. 2  c. \( \frac{2\pi}{3} \)
   b. 3  d. \( \frac{\pi}{3} \)

2. **Cotangent Graphs**
   Determine the period of the following cotangent graph.
   ![Cotangent Graph]

   a. \( \frac{\pi}{2} \)  c. 2
   b. \( \pi \)  d. \( 2\pi \)
3. **Tangent Graphs**

Consider the following tangent graph. Three consecutive vertical asymptotes of the graph can be described as \( x = -a, x = a, \) and \( x = 3a \) respectively. Determine the **period** of the such a tangent graph.

- a. \( a \)
- b. \( 2a \)
- c. \( 3a \)
- d. \( 4a \)

4. **Tangent Graphs**

What is the **period** of the tangent graph described by \( y = \tan(2x + 6) - 1 \)?

- a. \( 2 \)
- b. \( 6 \)
- c. \( \frac{\pi}{2} \)
- d. \( \pi \)

5. **Tangent Graphs**

Determine which of the below is a possible **phase shift** of the following tangent graph.

- a. \( -\frac{\pi}{2} \)
- b. \( 0 \)
- c. \( 1 \)
- d. \( \pi \)
6. **Cotangent Graphs**

Determine which of the below is a possible phase shift of the following cotangent graph.

![Cotangent Graph](image)

- a. 1
- b. 3
- c. \( \pi \)
- d. 4

7. **Tangent Graphs**

Determine which of the below is a possible phase shift of the following tangent graph.

![Tangent Graph](image)

- a. -3
- b. -1
- c. 3
- d. 8

8. **Tangent Graphs**

Which equation below represents a tangent graph with a phase shift of 3?

- a. \( y = \tan \left( \frac{2\pi}{3} (x - 3) \right) \)
- b. \( y = 2\tan \left( \frac{\pi}{3} \cdot x \right) + 3 \)
- c. \( y = 3\tan \left( 3\pi(x - 1) \right) \)
- d. \( y = -\frac{2\pi}{3} \tan(3(x)) \)
9. **Tangent Graphs**
Determine the **vertical shift** of the following tangent graph.

- A graph showing two tangent functions.
- Points labeled A(-5, -3) and B(3, -3).

Options:
- a. -1
- b. 0
- c. 2
- d. 4

10. **Tangent Graphs**
Determine the **vertical shift** of the following tangent graph.

- A graph showing two tangent functions.

Options:
- a. -3
- b. -1
- c. 3
- d. 8

11. **Cotangent Graphs**
What is the **vertical shift** of the graph of the equation \( y = 3 \cot(\pi(x - 4)) - 2 \)?

Options:
- a. 3
- b. -2
- c. 4
- d. 2
Tangent Graphs

Which shows a graph of \( y = \tan\left( x - \frac{\pi}{2}\right) - 2 \)?

a. 

b. 

c. 

d.