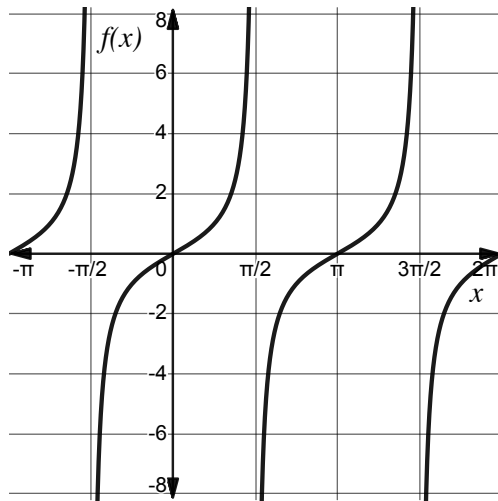


Copy of APPC Lesson 7.1 Homework

NAME _____

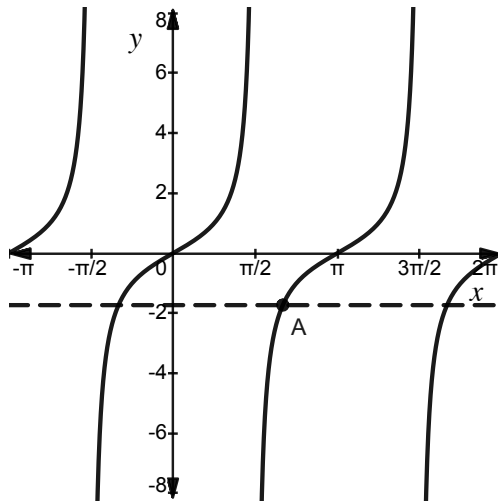
1. Let $f(x) = \tan x$. Evaluate each of the following.
- a. $f(0)$
 - b. $f\left(\frac{\pi}{3}\right)$
 - c. $f\left(\frac{7\pi}{4}\right)$
2. Which of the following points is NOT on the graph of $y = \tan x$?
- A) $\left(\frac{3\pi}{4}, -1\right)$
 - B) $(\pi, 0)$
 - C) $\left(\frac{7\pi}{6}, \frac{\sqrt{3}}{3}\right)$
 - D) $\left(\frac{11\pi}{6}, -\frac{1}{2}\right)$

3. A portion of the graph of $f(x) = \tan x$ is shown. Give two intervals on which f is increasing at a decreasing rate.



4. Explain why the domain of the tangent function is not all real numbers.

5. The graph of $y = \tan x$ is shown. The dashed line represents $y = -\sqrt{3}$. Find the exact coordinates of point A.



6. The graph of $y = \tan x$ has an x -intercept at $x = \frac{k\pi}{2}$. Which could be the value of k ?

- A) 30
- B) 31
- C) $\frac{30}{2}$
- D) $\frac{33}{2}$

7. Find the period of $y = \tan(4x) + 1$.
8. The graph of $y = \tan(bx)$ has vertical asymptotes at $x = -\frac{\pi}{6}, x = \frac{\pi}{6}, x = \frac{\pi}{2}, x = \frac{5\pi}{6}, \dots$. Find the value of b .
9. A tangent function of the form $y = \tan(bx)$ is defined for all values in the interval $(-2\pi, 2\pi)$. Find a possible value of b .

10.

The graph of a function g is shown.

The equation for g can be written as $g(x) = a \tan(b(x - c))$ for some constants a , b , and c . Find the values of a , b , and c .

