

What day of the month is your birthday? ___

What are the last 2 digits of your address? ___

What are the last 2 digits of your zip code? ___

What are the last 2 digits of your social security number? ___

[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER,
USE YOUR STUDENT ID NUMBER]Sketch two full periods of the graph of $y = 3 \tan \frac{x}{2}$.

Label the 2 y-coordinates and 8 x-coordinates discussed in class.

SCORE: ___ / 6 POINTS

PERIOD = $\frac{2\pi}{\frac{1}{2}} = 2\pi$

$\frac{1}{4}$ PERIOD = $\frac{\pi}{2}$

POINTS

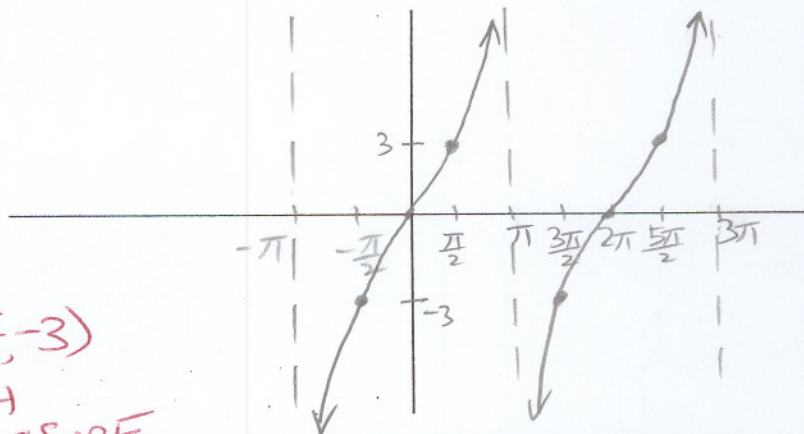
1 X COORDINATES

1 Y COORDINATES

1 ASYMPTOTES

1 POINTS $(\frac{\pi}{2}, 3)$ AND $(-\frac{\pi}{2}, -3)$

2 SHAPE OF tan GRAPH



SURE

State the domain and range of $y = \arctan x$.MAKE THE ENDPOINTS
ARE NOT INCLUDED

SCORE: ___ / 2 POINTS

DOMAIN:

$(-\infty, \infty)$

RANGE:

$(-\frac{\pi}{2}, \frac{\pi}{2})$

Evaluate the following expressions.

IF YOU HAD MORE THAN 1 ANSWER,
OR YOU WROTE $+n\pi$ OR $+2n\pi$
SUBTRACT $\frac{1}{2}$ POINT EACH TIME

SCORE: ___ / 6 POINTS

[a] $\arccos 0 = \frac{\pi}{2}$

[b] $\tan^{-1}\left(-\frac{\sqrt{3}}{3}\right) = -\frac{\pi}{6}$

[c] $\arcsin(-1) = -\frac{\pi}{2}$

[d] $\arctan \sqrt{3} = \frac{\pi}{3}$

[e] $\sin^{-1} \frac{\sqrt{3}}{2} = \frac{\pi}{3}$

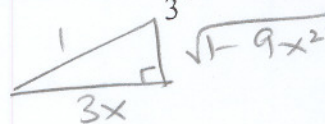
[f] $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right) = \frac{3\pi}{4}$

Evaluate the following expressions. If a value does not exist, write UNDEFINED.

SCORE: ___ / 6 POINTS

[a] $\cos(\arccos(\pi)) = \text{UNDEFINED}$

[b] $\cot(\arccos 3x) = \frac{3x}{\sqrt{1-9x^2}}$

(assume $0 \leq x < \frac{1}{3}$)

[c] $\sin\left(\cos^{-1}\left(-\frac{1}{4}\right)\right) = \frac{\sqrt{15}}{4}$

