

Final Exam

⚠ This is a preview of the published version of the quiz

Started: Jun 12 at 10:11am

Quiz Instructions

Please answer all questions to the best of your ability. Some of the questions will be multiple choice and some will require a typed response. For the questions requiring a typed response make sure you include your work in the response or you won't get full credit. If you aren't familiar with using the insert equation feature on Canvas I would suggest you look over the link on our module page before you get started with the exam. This feature will allow you to include Greek letters, and other features of mathematical formulas in your answers.

After you start the exam, you will have a total of 120 minutes to answer all the questions and submit the exam. This is an open notes exam, but you are not allowed to get help from any other sources including but not limited to tutors, or your fellow classmates.

Best of luck!

Question 1

10 pts

Convert the angle $\frac{3\pi}{12}$ into degrees.

p



0 words



Question 2

10 pts

Convert the angle 210° into radians.

p



0 words



Question 3**10 pts**

Give the exact value for all trig functions when evaluated at the angle $\frac{11\pi}{6}$

p



0 words

**Question 4****10 pts**

Find the exact value of cosine of the angle $-\frac{\pi}{12}$

$\frac{\sqrt{2}+\sqrt{6}}{4}$

$\frac{\sqrt{2}-\sqrt{6}}{4}$

$\frac{\sqrt{2}-1}{2}$

$\frac{\sqrt{2}+1}{2}$

Question 5**10 pts**

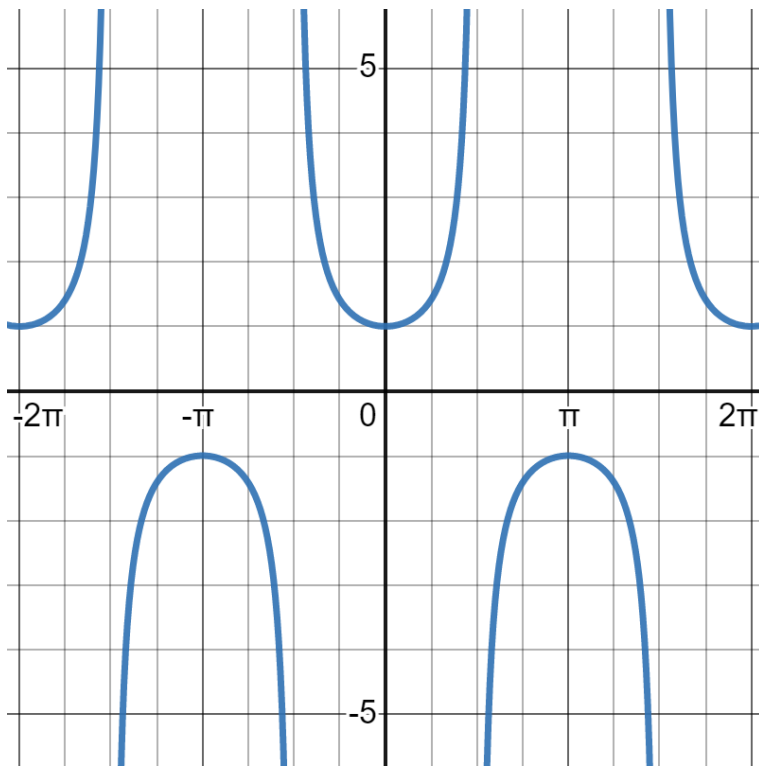
Determine if the following statement is true or false:

Because sine is a periodic function it is not one to one. This means in order to create an inverse sine function the domain must be restricted to just one period. On this restricted domain $[0, 2\pi)$ sine is one-to-one and thus its inverse function arcsine is defined.

 True False

Question 6**10 pts**

Find the equation for the following graph.



$-\sec\left(x + \frac{\pi}{2}\right)$

$\csc(x + \pi)$

$\csc(x)$

$\sec(x)$

Question 7**10 pts**

Verify the following trigonometric identity.

$$\frac{1}{1+\cos(x)} + \frac{1}{1-\cos(x)} = 2 \csc^2(x)$$

p



0 words



Question 8**10 pts**

Verify the following trigonometric identity.

$$\frac{1}{1-\sin(x)} = \sec^2(x) + \tan(x)\sec(x)$$

p



0 words

**Question 9****10 pts**

Solve the following equation for all values of x in the interval $[0, 2\pi)$.

$$\sin\left(2x - \frac{\pi}{4}\right) + 1 = 0$$

p



0 words

**Question 10****10 pts**

A pitched roof has a slope (rise/run) of $3/5$. What acute angle does the roof make with the horizontal? Express your answer in radians.

 0.6435 0.9273 0.5404

Question 11**10 pts**

Solve the following triangle for all missing angles and sides. (Note capital letters are angles, and side lengths are lowercase.)

$$B = 63^\circ, C = 48^\circ, b = 23$$

p



0 words

**Question 12****10 pts**

Convert $(3, \frac{7\pi}{2})$ from polar coordinates to rectangular coordinates.

 (0,3) (0,-3) (3,0) (-3,0)**Question 13****10 pts**

True or False: The vectors $\langle -3, 6 \rangle$, and $\langle 4, 2 \rangle$ are perpendicular.

 True False**Question 14****10 pts**

Find all of the complex third roots of i .

p



0 words



No new data to save. Last checked at 10:13am

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