

2021 Trigonometry Sample Final Analysis

Lesson 175 | Trigonometry | Unit circle and exact values • Sine and cosine graphs • Trigonometric equations

<https://www.youtube.com/watch?v=aUXONAhIF6g>

Related review: exact coverage needs teacher confirmation.

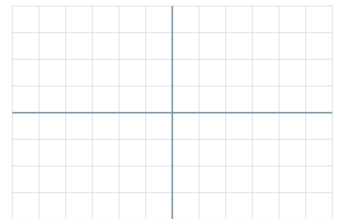
Name: _____ Date: _____ Show your reasoning.

01

Find exact $\sin(2490^\circ)$ and $\cos(2490^\circ)$ using the unit circle. Give the coterminal angle in $[0^\circ, 360^\circ)$.

02

Analyze and sketch one cycle of $y=4\sin(7(x-5)))+13$. Give amplitude, period, phase shift, midline, and five key points.

**03**

Solve $10\sin(5x)-5=0$ for $0 \leq x < 2\pi$. Give an exact formula listing all roots.

2021 Trigonometry Sample Final Analysis

Lesson 175 | Trigonometry | Unit circle and exact values • Sine and cosine graphs • Trigonometric equations

<https://www.youtube.com/watch?v=aUXONAhIF6g>

Related review: exact coverage needs teacher confirmation.

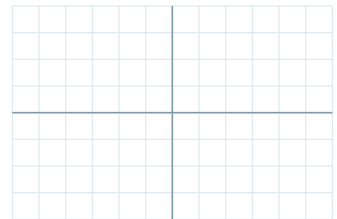
Name: _____ Date: _____ Show your reasoning.

04

Find exact $\sin(3300^\circ)$ and $\cos(3300^\circ)$ using the unit circle. Give the coterminal angle in $[0^\circ, 360^\circ)$.

05

Analyze and sketch one cycle of $y=3\sin(3(x-(-6)))+8$. Give amplitude, period, phase shift, midline, and five key points.

**06**

Solve $4\sin(5x)-2=0$ for $0 \leq x < 2\pi$. Give an exact formula listing all roots.

2021 Trigonometry Sample Final Analysis

Lesson 175 | Trigonometry | Unit circle and exact values • Sine and cosine graphs • Trigonometric equations

<https://www.youtube.com/watch?v=aUXONAhIF6g>

Related review: exact coverage needs teacher confirmation.

01

Find exact $\sin(2490^\circ)$ and $\cos(2490^\circ)$ using the unit circle. Give the coterminal angle in $[0^\circ, 360^\circ)$.

Coterminal angle 330° . Coordinates $(\cos \theta, \sin \theta) = (\sqrt{3}/2, -1/2)$; the first is cosine and the second is sine.

02

Analyze and sketch one cycle of $y=4\sin(7(x-5)))+13$. Give amplitude, period, phase shift, midline, and five key points.

Amplitude 4; period $2\pi/7$; shift 5; midline $y=13$. Start at $x=5$; use x -increments $\pi/14$. The five y -values are 13, 17, 13, 9, 13.

03

Solve $10\sin(5x)-5=0$ for $0 \leq x < 2\pi$. Give an exact formula listing all roots.

$\sin(5x)=1/2$. Thus $x=(\pi/6+2k\pi)/5$ or $x=(5\pi/6+2k\pi)/5$, $k=0,1,\dots,4$. There are 10 roots in the interval.

2021 Trigonometry Sample Final Analysis

Lesson 175 | Trigonometry | Unit circle and exact values • Sine and cosine graphs • Trigonometric equations

<https://www.youtube.com/watch?v=aUXONAhIF6g>

Related review: exact coverage needs teacher confirmation.

04

Find exact $\sin(3300^\circ)$ and $\cos(3300^\circ)$ using the unit circle. Give the coterminal angle in $[0^\circ, 360^\circ)$.

Coterminal angle 60° . Coordinates $(\cos \theta, \sin \theta) = (1/2, \sqrt{3}/2)$; the first is cosine and the second is sine.

05

Analyze and sketch one cycle of $y=3\sin(3(x-(-6)))+8$. Give amplitude, period, phase shift, midline, and five key points.

Amplitude 3; period $2\pi/3$; shift -6; midline $y=8$. Start at $x=-6$; use x -increments $\pi/6$. The five y -values are 8, 11, 8, 5, 8.

06

Solve $4\sin(5x)-2=0$ for $0 \leq x < 2\pi$. Give an exact formula listing all roots.

$\sin(5x)=1/2$. Thus $x=(\pi/6+2k\pi)/5$ or $x=(5\pi/6+2k\pi)/5$, $k=0,1,\dots,4$. There are 10 roots in the interval.