

Name:

Partners:

PreCalculus

Date:

Review 3 Version A

**[A] Circle whether each statement is true or false.**

T F 1.  $\cos \theta = \cos -\theta$

T F 2.  $\sin (\pi - \theta) = \sin \theta$

T F 3.  $\tan (\theta - \pi) = \tan \theta$

T F 4.  $\sin \theta = \sin (\theta - 2\pi)$

T F 5.  $\sin \theta = \cos (\theta - 90^\circ)$

T F 6.  $\cos \theta = \sin (\theta - 90^\circ)$

T F 7. The period of  $y = \cos 8\theta$  is 8.

T F 8. Given  $4 \sin \theta = 3 \cos \theta$ ,  $\tan \theta = \frac{3}{4}$ .

T F 9. The general solution to  $\tan \theta = \sqrt{3}$  is  $\theta = 60^\circ + 180^\circ n$ .

T F 10. There are 8 solutions to the equation  $\sin^2 2\theta = \frac{1}{4}$  in the range  $-2\pi \leq \theta \leq 2\pi$ .

**[B] Find each solution in the range  $0^\circ \leq \theta \leq 360^\circ$ , showing all steps.**

1.  $\sec^2 2\theta = 4$

2.  $\tan^2 \theta + 8 \tan \theta + 15 = 0$

**[C] Use the graphing calculator to find all solutions in the range  $0^\circ \leq \theta \leq 360^\circ$ .**

1.  $3 \sin (2\theta + 180^\circ) = 1$

**[D] Fill in the following chart using sine. Do not use degrees.**

Problem #	1.	2.	3.
equation	$y = 1 + 3 \sin 2x$		
amplitude		5	
period		$\pi$	
phase shift		0	
vertical shift		-1	
sketch (at least 2 periods)			

**[E] Do the following to organize your group's reviews.**

1. Make sure your name and your partners' names are at the top of your review the first day.
2. Staple the reviews in order, all facing the same way. Put the staple in the very top left corner if everyone is finished or if the review is due; otherwise put the staple in the top right corner.

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Review 3 Version B

**[A] Circle whether each statement is true or false.**

T F 1.  $\cos \theta = \cos -\theta$

T F 2.  $\sin (\pi - \theta) = \sin \theta$

T F 3.  $\tan (\theta - \pi) = \tan \theta$

T F 4.  $\sin \theta = \sin (\theta - 2\pi)$

T F 5.  $\sin \theta = \cos (\theta - 90^\circ)$

T F 6.  $\cos \theta = \sin (\theta - 90^\circ)$

T F 7. The period of  $y = \cos 8\theta$  is 8.

T F 8. Given  $4 \sin \theta = 3 \cos \theta$ ,  $\tan \theta = \frac{3}{4}$ .

T F 9. The general solution to  $\tan \theta = \sqrt{3}$  is  $\theta = 60^\circ + 180^\circ n$ .

T F 10. There are 8 solutions to the equation  $\sin^2 2\theta = \frac{1}{4}$  in the range  $-2\pi \leq \theta \leq 2\pi$ .

**[B] Find each solution in the range  $0^\circ \leq \theta \leq 360^\circ$ , showing all steps.**

1.  $\sec^2 3\theta = 4$

2.  $\tan^2 \theta + 8 \tan \theta = 20$

**[C] Use the graphing calculator to find all solutions in the range  $0^\circ \leq \theta \leq 360^\circ$ .**

1.  $3 \sin \theta = \tan \theta$

**[D] Fill in the following chart using sine. Do not use degrees.**

Problem #	1.	2.	3.
equation	$y = 2 + 3 \sin 4x$		
amplitude		6	
period		$\frac{1}{3}$	
phase shift		0	
vertical shift		-2	
sketch (at least 2 periods)			

**[E] Bonus.**

1. State the number of solutions in the range  $0 \leq x \leq 6\pi$ .

a)  $\sin 5x = .84$

b)  $\sin^2 x = .77$

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Review 3 Version C

**[A] Circle whether each statement is true or false.**

T F 1.  $\cos \theta = \cos -\theta$

T F 2.  $\sin (\pi - \theta) = \sin \theta$

T F 3.  $\tan (\theta - \pi) = \tan \theta$

T F 4.  $\sin \theta = \sin (\theta - 2\pi)$

T F 5.  $\sin \theta = \cos (\theta - 90^\circ)$

T F 6.  $\cos \theta = \sin (\theta - 90^\circ)$

T F 7. The period of  $y = \cos 8\theta$  is 8.

T F 8. Given  $4 \sin \theta = 3 \cos \theta$ ,  $\tan \theta = \frac{3}{4}$ .

T F 9. The general solution to  $\tan \theta = \sqrt{3}$  is  $\theta = 60^\circ + 180^\circ n$ .

T F 10. There are 8 solutions to the equation  $\sin^2 2\theta = \frac{1}{4}$  in the range  $-2\pi \leq \theta \leq 2\pi$ .

**[B] Find each solution in the range  $540^\circ \leq \theta \leq 720^\circ$ , showing all steps.**

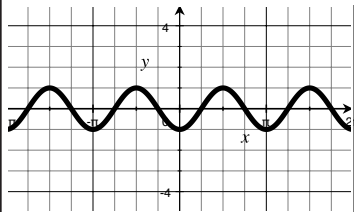
1.  $3 \sec^2 3\theta = 4$

2.  $2 \tan^2 \theta + 8 \tan \theta = -6$

**[C] Use the graphing calculator to find all solutions in the range  $0^\circ \leq \theta \leq 360^\circ$ .**

1.  $3 \sin (2\theta + 180^\circ) = \cos \theta$

**[D] Fill in the following chart using sine. Do not use degrees.**

Problem #	1.	2.	3.
equation	$y = 2 - 3 \sin x/2$		
amplitude		7	
period		$\pi/3$	
phase shift		0	
vertical shift		-3	
sketch (at least 2 periods)			

**[E] Bonus.**

1. State the number of solutions in the range  $0 \leq x \leq 16\pi$ .

a)  $\cos 4x = .96$

b)  $\sin^2 x = .71$

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Review 3 Version D

**[A] Circle whether each statement is true or false.**

T F 1.  $\cos \theta = \cos -\theta$

T F 2.  $\sin (\pi - \theta) = \sin \theta$

T F 3.  $\tan (\theta - \pi) = \tan \theta$

T F 4.  $\sin \theta = \sin (\theta - 2\pi)$

T F 5.  $\sin \theta = \cos (\theta - 90^\circ)$

T F 6.  $\cos \theta = \sin (\theta - 90^\circ)$

T F 7. The period of  $y = \cos 8\theta$  is 8.

T F 8. Given  $4 \sin \theta = 3 \cos \theta$ ,  $\tan \theta = \frac{3}{4}$ .

T F 9. The general solution to  $\tan \theta = \sqrt{3}$  is  $\theta = 60^\circ + 180^\circ n$ .

T F 10. There are 8 solutions to the equation  $\sin^2 2\theta = \frac{1}{4}$  in the range  $-2\pi \leq \theta \leq 2\pi$ .

**[B] Find each solution in the range  $-540^\circ \leq \theta \leq -360^\circ$ , showing all steps.**

1.  $3 \sec^2 4\theta = 4$

2.  $2 \tan^3 \theta + 8 \tan^2 \theta + 6 \tan \theta = 0$

**[C] Use the graphing calculator to find all solutions in the range  $0^\circ \leq \theta \leq 360^\circ$ .**

1.  $3 \sin 2\theta = \cos^2 \theta$

**[D] Fill in the following chart using sine. Do not use degrees.**

Problem #	1.	2.	3.
equation	$y = 2 - 5 \sin 3x$		
amplitude		1	
period		$\frac{4\pi}{3}$	
phase shift		$-\frac{\pi}{3}$	
vertical shift		-4	
sketch (at least 2 periods)			

**[E] Bonus.**

1. State the number of solutions in the range  $0 \leq x \leq 8\pi$ .

a)  $\sin 3x = 1.20$

b)  $\sin^2 x = -1/3$