

# Practice for Bonus Question of Test 3

Math 130 *Kovitz* Spring 2019: the test is on Tuesday, May 9.

True or false:

1. The equation  $\sin \theta = -\frac{1}{2}$  has solutions  $7\pi/6$  and  $11\pi/6$  in the interval  $[0, 2\pi]$
2. The equation  $\sin x = \cos x$  has exactly one solution in  $[0, \pi]$ .
3.  $\frac{\sin 2x}{1 - \sin^2 x} = \tan x$ .
4.  $\frac{1}{2} \sin 2x = \sin x \cos x$ .
5.  $\cos^2 \theta = \frac{1 + \cos 2\theta}{2}$ .
6. The cosine of the supplement is equal to the sine of the complement.
7. The sine of the complement of angle  $\theta$  is equal to the cosine of minus  $\theta$ .

**Answers follow.**

## Answers.

1. True.
2. True.
3. False. It equals  $2 \tan x$ .
4. True.
5. True.
6. False. It is minus the sine of the complement.
7. True.