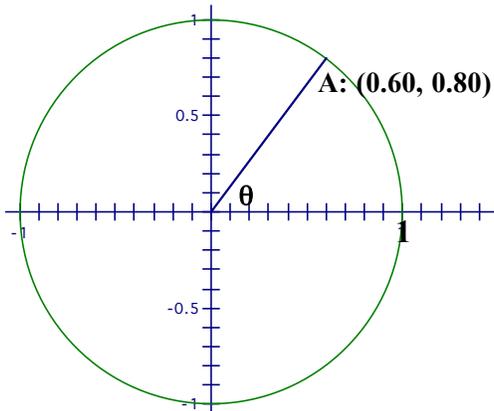


Precalculus Unit 1 HW Assignment
HW 1.4: Understanding Sine and Cosine

Name _____
Date _____

1. Find the sine and cosine of θ shown in the diagram below:



Sin θ = _____
Cos θ = _____

2. It can be determined that angle θ in the diagram above measures approximately 53° .

- (a) State the measure of another angle that has the same sine as angle θ . _____
- (b) State the measure of another angle that has the same cosine as angle θ . _____
- (c) State the measures of two angles that have the opposite sine as angle θ . _____
- (d) State the measures of two angles that have the opposite cosine as angle θ . _____

3. The image of the point $(1, 0)$ when it is rotated counterclockwise about the origin through x° is $(-.7986, .6018)$.

- (a) What is $\sin x$? _____
- (b) What is $\cos x$? _____

4. The image of the point $(1, 0)$ when it is rotated counterclockwise about the origin through z° is $(-(-.9397), -.3420)$.

- (a) What is $\sin z$? _____
- (b) What is $\cos z$? _____

- 5. (a) What is the sine of 30° ? _____
- (b) State the measure of another angle that has the same sine as 30° : _____
- (c) State the measure of two angles that have the opposite sine as 30° : _____

- 6. (a) What is the cosine of 30° ? _____
- (b) State the measure of another angle that has the same cosine as 30° : _____
- (c) State the measure of two angles that have the opposite cosine as 30° : _____

- 7. (a) What is the sine of 60° ? _____
- (b) State the measure of another angle that has the same sine as 60° : _____
- (c) State the measure of two angles that have the opposite sine as 60° : _____

8. (a) What is the cosine of 60° ? _____
(b) State the measure of another angle that has the same cosine as 60° : _____
(c) State the measure of two angles that have the opposite cosine as 60° : _____

9. (a) What are the sine and cosine of 45° ? _____
(b) State the measure of another angle that has the same sine as 45° : _____
(c) State the measure of another angle that has the same cosine as 45° : _____
(d) State the measure of two angles that have the opposite sine as 45° : _____
(e) State the measure of two angles that have the opposite cosine as 45° : _____

10. State the following:

- | | |
|---------------------------|----------------------------|
| (a) $\sin 0^\circ$ _____ | (e) $\sin 180^\circ$ _____ |
| (b) $\cos 0^\circ$ _____ | (f) $\cos 180^\circ$ _____ |
| (c) $\sin 90^\circ$ _____ | (g) $\sin 270^\circ$ _____ |
| (d) $\cos 90^\circ$ _____ | (h) $\cos 270^\circ$ _____ |

11. You are told that the sine of 15° is approximately equal to 0.259.

- (a) Find three other angles that have a sine equal to 0.259. _____
(b) Find three other angles that have a sine equal to -0.259. _____

12. The image of the point $(1, 0)$ when it is rotated counterclockwise about the origin through x° is $(-.7986, .6018)$. Find x . Hint: You'll need to use your calculator for this one. If you know the sine of an angle, how can you use your calculator to find the angle?