

Math 124 Practice Final
§4.1, 4.2, 4.3, 4.4, 5.2, 6.1, 6.2, 6.3, 7.1, 7.3, 7.4
Spring 2010

§4.1, 4.2 Sketch the graph.

1. $y = \sin 2x$

2. $y = \cos 3x$

§4.3, 4.4 Sketch the graph.

3. $y = \tan x$

4. $y = \sec x$

5. $y = \csc x$

§5.2 Verify that the trigonometric equation is an identity.

$$\sin^4 \theta - \cos^4 \theta = 2 \sin^2 \theta - 1$$

§6.1 Give exact values in radians.

6. $\sin^{-1}(1/2)$

7. $\cos^{-1}(-\sqrt{3}/2)$

8. $\tan^{-1} 0$

9. $\sin^{-1}(-\sqrt{2}/2)$

§6.1, 6.2 Find all of the solutions on the interval $[0, 2\pi)$. Give exact values in radians.

10. $\sin x = \sqrt{3}/2$

11. $\cos x = -\sqrt{2}/2$

§6.1, 6.2 Find all real solutions. Give exact values in radians.

12. $\sin 2x = -1/2$

13. $\cos 3x = \sqrt{2}/2$

14. §6.1, 6.2 Find all of the solutions on the interval $[0, 2\pi)$. Give an approximation to 2 decimal places.

$$\sin x = -.84$$

15. Find all solutions on the interval $[0, 2\pi)$. Give exact values in radians.

$$\sin 2x = \cos x$$

16. §7.1 Solve the triangle using the Law of Sines. Round your answer to two decimal places.

$$A = 29.0^\circ, B = 76.8^\circ, a = 72.9\text{ft}$$

17. §7.1 Solve the triangle using the Law of Sines. Round your answer to two decimal places.

$$C = 113.0^\circ, A = 36.8^\circ, b = 325.9\text{ft}$$

18. §7.3 Solve the triangle using the Law of Cosines. Round your answer to two decimal places.

$$a = 4.3, b = 3.7, c = 6.0$$

19. §7.3 Solve the triangle using the Law of Cosines. Round your answer to two decimal places.

$$b = 245, C = 123.2^\circ, a = 429$$

20. §7.3 *Finding the Magnitude of a Resultant.* Two forces of 16 and 21 newtons act on a point in the plane. (A **newton** is a unit of force that equals 0.225 lb.) If the angle between the forces is 105° , find the magnitude of the resultant force.