

MAT 182 – Homework 3
Sections 1.5 and 1.6

NAME _____

Directions: Show all work and write your final answer in the space provided.

1. Evaluate $\sin^{-1}(2/5)$ to the nearest tenth of a degree. 1. _____
2. Find the reference angle in degrees and radians if $\alpha = 330^\circ$. 2. _____
3. If $\cos \alpha = 0.923$ find α to the nearest tenth of a degree. 3. _____
4. Find the exact value of $\sin(420^\circ)$. 4. _____
5. Evaluate $\tan^{-1}(5.68)$ to the nearest tenth of a degree. 5. _____
6. True or False: $\sin(150^\circ) = \sin(30^\circ)$ 6. _____
7. A hiker stands 90 feet from a tree and sights the top of the tree with an angle of elevation of 74° . How tall is the tree? (nearest tenth) 7. _____
8. Find the exact value of $\cos(11\pi/6)$. 8. _____
9. Find the missing sides and/or angles in a right triangle if $a = 10$ and $c = 12$. (nearest tenth) 9. _____
10. Find the reference angle in degrees and radians if $\alpha = -300^\circ$. 10. _____
11. Find $\cos(\alpha)$, given that $\sin(\alpha) = -12/13$ and α is in quadrant IV. 11. _____
12. Find the exact value of $\tan(-13\pi/4)$. 12. _____
13. If $\sin \alpha = 4/5$ find α to the nearest tenth of a degree. 13. _____
14. Find the missing sides and/or angles in a right triangle if $A = 32.4^\circ$ and $b = 10$. (nearest tenth) 14. _____

15. Find the reference angle in degrees and radians if $\alpha = -3\pi/4$. 15. _____
16. A 120-foot wire is attached to the top of an antenna. The angle between the wire and the ground is 61° . How tall is the antenna? (nearest tenth) 16. _____
17. Find the exact value of $\sin(-225^\circ)$. 17. _____
18. Find $\sin(\alpha)$, given that $\cos(\alpha) = 2/5$ and $\sin(\alpha) < 0$. 18. _____
19. Find the exact value of $\sec(7\pi/6)$. 19. _____
20. Find the missing sides and/or angles in a right triangle if $B = 47^\circ$ and $a = 3$. (nearest tenth) 20. _____
21. Find the reference angle in degrees and radians if $\alpha = -2\pi/3$. 21. _____
22. Find the missing sides and/or angles in a right triangle if $B = 19^\circ 12'$ and $b = 60$. (nearest tenth) 14. _____
23. Find the exact value of $\csc(315^\circ)$. 23. _____
24. True or False: $\cos(13\pi/12) = -\cos(\pi/12)$ 24. _____
25. From a point on a bridge, 15.2 meters above the road, the angle of depression to a car is 19.1° . How far is the car from a point on the road directly below the bridge? (nearest tenth) 25. _____