**Express as a cofunction of a complementary angle.**

1. (a) sin 46°37' (b) cos 73°12' (c) tan (d) sec 17.28°

2. (a) cos (b) sin (c) tan 1 (d) csc 0.53

**Find the exact values.**

3. (a) cos + cos (b) cos (use = )

4. (a) tan 60° + tan 225° (b) tan 285° (use 285° = 60° + 225°)

5. (a) sin sin (b) sin (use = )

**Express as a trigonometric function of one angle.**

6. cos 48° cos 23° + sin 48° sin 23° 7. cos 10° sin5° - sin 10° cos 5° 8. cos 3 sin (-2) - cos 2 sin 3

9. If α and β are acute angles such that cos α = and tan β = , find

(a) sin (α + β) (b) cos (α + β) (c) the quadrant containing (α + β)

10. If sin α = and sec β = for a third-quadrant angle α and a first-quadrant angle β, find

(a) sin (α + β) (b) tan (α + β) (c) the quadrant containing (α + β)

11. If α and β are third-quadrant angles such that cos α = and cos β = , find

(a) sin (α - β) (b) cos (α - β) (c) the quadrant containing (α - β)

**Verify the reduction formula.**

12. sin (θ + π) = -sin θ 13. sin (x - ) = -cos x 14. cos (θ - π) = -cos θ

**Verify the identity.**

15. sin (θ + ) = (sin θ + cos θ) 16. tan (u + ) =

**Use the addition or subtraction formula to find the solutions of the equation that are in the interval [0, π).**

17. sin 4t cos t = sin t cos 4t 18. cos 5t cos 2t = - sin 5t sin 2t