

9.3 Other Trig Properties (1)

Name: _____

Use the cofunction properties to find an equivalent expression:

1. $\sin 52^\circ$

2. $\cot 43^\circ$

3. $\sec \frac{2\pi}{5}$

4. $\cos \frac{\pi}{4}$

5. $\csc \frac{3\pi}{8}$

Rewrite each expression with a positive argument using the odd/even properties:

6. $\sin(-70^\circ)$

7. $\sec(-25^\circ)$

8. $\tan\left(-\frac{5\pi}{7}\right)$

9. $\cos\left(-\frac{\pi}{5}\right)$

10. $\cot(-35^\circ)$

11. $\csc\left(-\frac{8\pi}{13}\right)$

Simplify the given expression using the sum and difference properties:

12. $\sin 5 \cdot \cos 3 - \cos 5 \cdot \sin 3$

13. $\cos 37^\circ \cdot \cos 23^\circ - \sin 37^\circ \cdot \sin 23^\circ$

14.
$$\frac{\tan 2x + \tan 5x}{1 - \tan 2x \cdot \tan 5x}$$

15. $\cos(x+y) \cdot \cos y + \sin(x+y) \cdot \sin y$

16. $\sin \frac{5\pi}{12} \cos \frac{\pi}{12} - \cos \frac{5\pi}{12} \sin \frac{\pi}{12}$

17.
$$\frac{1 + \tan 3x \tan 4x}{\tan 3x - \tan 4x}$$