

Unit 7: Trigonometric Functions

ADVANCED · SET 2

Name: _____

Date: _____

Evaluate each expression exactly using the unit circle and special-angle values. Give exact answers (fractions, sqrt form, or coordinate pairs) — no decimals.

1. Find the exact value of $\tan(210^\circ)$. Give your answer in the form a/b or with a rationalized square root.

Answer: _____

3. Evaluate $\sin(5\pi/4) + \cos(7\pi/4)$. Give the exact value.

Answer: _____

5. Evaluate $\sqrt{3} \times \tan(300^\circ)$. Give the exact value.

Answer: _____

7. Evaluate $4 \times \sin(-\pi/3) + 2 \times \cos(4\pi/3)$. Give the exact value.

Answer: _____

9. Find the exact value of $\tan(5\pi/6)$. Rationalize any square root in the denominator.

Answer: _____

11. Find the reference angle of $7\pi/6$, in radians.

Answer: _____

2. The terminal side of an angle of 300° meets the unit circle at a point. Give that point $(\cos, \sin)$ as an exact coordinate pair.

Answer: _____

4. Compute $6 \times \sin(240^\circ) \times \cos(150^\circ)$. Give the exact value.

Answer: _____

6. Find the exact value of $\cos(11\pi/6)$.

Answer: _____

8. Evaluate $(\tan(135^\circ))^2 + (\sin(150^\circ))^2$. Give the exact value.

Answer: _____

10. Evaluate $(\sin(240^\circ))^2 + (\cos(240^\circ))^2$. Give the exact value.

Answer: _____

12. Evaluate $(\cos(120^\circ) \times \sin(330^\circ)) / \tan(225^\circ)$. Give the exact value.

Answer: _____