

Name _____

5-8 Lesson Master

Questions on SPUR Objectives
See Student Edition pages 339–343 for objectives.

SKILLS Objective D

In 1–8, use an appropriate sum or difference formula to express the trigonometric value in terms of rational numbers and radicals.

1. $\sin\left(\frac{\pi}{4} + \frac{\pi}{3}\right)$ _____
2. $\cos(30^\circ + 135^\circ)$ _____
3. $\sin(270^\circ - 150^\circ)$ _____
4. $\cos\left(\frac{\pi}{3} - \frac{7\pi}{6}\right)$ _____
5. $\sin \frac{13\pi}{12}$ _____
6. $\sin 75^\circ$ _____
7. $\cos \frac{\pi}{12}$ _____
8. $\cos(-105^\circ)$ _____
9. Write $\sin\left(y + \frac{4\pi}{3}\right)$ in terms of $\sin y$, $\cos y$, rational numbers, and radicals. _____
10. a. Write $\cos(x - 30^\circ)$ in terms of $\sin x$, $\cos x$, rational numbers and radicals.

- b. Use your answer to Part a to estimate $\cos(x - 30^\circ)$ to 3 decimal places, given that $\cos x = 0.409$ and $\sin x$ is positive.

PROPERTIES Objective J

In 11 and 12, complete the equation so that it is an identity.

11. $\cos(a + b) =$ _____
12. $\cos s \cos t + \sin s \sin t =$ _____

In 13 and 14, prove the identity and state its domain.

13. $\sin(x - y) - \sin(x + y) = -2 \cos x \sin y$ _____

domain: _____

14. $\cos\left(p + \frac{5\pi}{2}\right) = -\sin p$ _____

domain: _____