

Sum and Difference Identities (Part 2)

These notes are intended as a companion to section 7.5 (p. 635 – 640) in your workbook. You should also read the section for more complete explanations and additional examples.

Applying the Sum and Difference Identities

The sum and difference identities can be used to determine exact values for some angles we couldn't determine before.

Example (not in workbook)

Use the sum and difference identities to determine exact values for each of the following:

a) $\sin 75^\circ$

b) $\cos \frac{\pi}{12}$

Example 1 (sidebar p. 637)

Given angle α in standard position with its terminal arm in Quadrant 3 and $\cos\alpha = -\frac{3}{5}$, and angle β in standard position with its terminal arm in Quadrant 2 and $\sin\beta = \frac{1}{3}$, determine the exact value of $\sin(\alpha + \beta)$.

Homework: #7, 8, 13 in the exercises (p. 641 – 649). Answers on p. 650.