10-4 Measure of 2 Angles

Name: _____   Time› Start: _____ Finish: _____ Total Time = _____

"Sum and Difference" identities

$\cos(\alpha \pm \beta) = \cos\alpha\cos\beta \mp \sin\alpha\sin\beta$

$\sin(\alpha \pm \beta) = \sin\alpha\cos\beta \pm \cos\alpha\sin\beta$

$\tan(\alpha \pm \beta) = \dfrac{\tan\alpha \pm \tan\beta}{1 \mp \tan\alpha\tan\beta}$

If α and β are the measures of two first quadrant angles, find the exact value of each function.

_____1. If $\sin\alpha = \dfrac{8}{17}$ and $\tan\beta = \dfrac{24}{7}$, find $\cos(\alpha + \beta)$

_____2. If $\sin\alpha = \dfrac{12}{13}$ and $\sin\beta = \dfrac{40}{41}$, find $\cos(\alpha - \beta)$

_____3. If $\tan\alpha = \dfrac{12}{35}$ and $\cos\beta = \dfrac{3}{5}$, find $\sin(\alpha + \beta)$

_____4. If $\sin\alpha = \dfrac{7}{25}$ and $\sin\beta = \dfrac{12}{13}$, find $\cos(\alpha - \beta)$

_____5. If $\csc\alpha = \dfrac{13}{5}$ and $\tan\beta = \dfrac{35}{12}$, find $\sin(\alpha + \beta)$

_____6. If $\cos\alpha = \dfrac{28}{53}$ and $\sin\beta = \dfrac{9}{41}$, find $\cos(\alpha - \beta)$

_____7. If $\tan\alpha = \dfrac{24}{7}$ and $\sin\beta = \dfrac{12}{37}$, find $\tan(\alpha + \beta)$