Name: _____

Sum and Difference Formulas

1) Find the exact value of the trigonometric function given that $\sin u = \frac{3}{4}$ and $\cos v = -\frac{5}{13}$ (both u and v are in Quadrant II.)

   1) sin(u + v)
   2) tan(u + v)
   3) cos(u – v)
   4) sin(u – v)
   5) cos(u + v)
   6) tan(u – v)

2) Suppose that A and B are angles in standard position, with $\sin A = \frac{4}{5}$, $\frac{\pi}{2} < A < \pi$, and $\cos B = -\frac{5}{13}$, $\pi < B < \frac{3\pi}{2}$. Find each of the following:

   1) $\sin(A + B)$

   2) $\tan(A + B)$

   3)the quadrant of $A + B$

3) Use the given information to find $\cos(s + t)$, $\sin(s - t)$ and $\tan(s + t)$ then determine in which quadrant is $s + t$

   1) $\cos s = \frac{3}{5}$ and $\sin t = \frac{5}{13}$, s and t in quadrant I

   2) $\cos s = -\frac{1}{5}$ and $\sin t = \frac{3}{5}$, s and t in quadrant II

   3) $\sin s = \frac{2}{3}$ and $\sin t = -\frac{1}{3}$, s in quadrant II and t in quadrant IV

   4) $\sin s = \frac{3}{5}$ and $\sin t = -\frac{12}{13}$, s in quadrant I and t in quadrant III

   5) $\cos s = \frac{-8}{17}$ and $\cos t = \frac{-3}{5}$, s and t in quadrant III

   6) $\cos s = -\frac{15}{17}$ and $\sin t = \frac{4}{5}$, s in quadrant II and t in quadrant I