Quiz 5

1. (10 pts)
   (a) State the difference formula for cosine:

   \[ \cos(u - v) = \]

   (b) Use your answer above and basic identities to derive the familiar sum formula for cosine (the formula for \( \cos(u + v) \)).

   State a reason for each step.

2. (10 pts) Verify the following identity. State a reason for each step.

   \[ \cos^4 x - \sin^4 x = \cos 2x \]