

Answer on Question #40518 – Math – Trigonometry

$$\cot(90^\circ - a) - \tan(180^\circ - b) \div \tan(90^\circ - a) + \cot b$$

Solution:

We have to find the result of the expression:

$$\cot(90^\circ - a) - \frac{\tan(180^\circ - b)}{\tan(90^\circ - a)} + \cot b \quad (1)$$

Formulas for the complementary angles:

$$\cot(90^\circ - a) = \tan a \quad (2)$$

$$\tan(180^\circ - b) = -\tan b \quad (3)$$

$$\tan(90^\circ - a) = \cot a \quad (4)$$

(2) and (3) and (4) in (1):

$$\tan a - \left(-\frac{\tan b}{\cot a} \right) + \cot b = \tan a + \tan b \cdot \tan a + \cot b$$

Answer: $\tan a + \tan b \cdot \tan a + \cot b$