Complex numbers 002

Problem has been graded.

Find A_1 and B_1.

$$\mathbf{V_1} = b\sqrt{2} \cdot j \qquad \mathbf{Z_1} = \left(aj + \frac{a}{1+j}\right)^{-1} \qquad \mathbf{I_1} = \frac{\mathbf{V_1}}{\mathbf{Z_1}}$$

$$\mathbf{I_1} = A_1 \cdot e^{jB_1} \quad \text{with} \quad 0 \leq A_1 \quad \text{and} \quad -180° \leq B_1 \leq 180$$

Solve without a calculator

Given Variables:

a : 1 .

b : 2 .

Calculate the following:

A1 (.) :

2 ✓

B1 (degrees) :

135 ✓

> Hint: Write Z1 in polar coordinates.