Name _____   Date _____

Composition of Functions- Step-by-Step Lesson

The two functions t(x) and v(X) are defined below.

$$t(x) = 4x - 1 \qquad v(x) = x^2 + 4$$

a. Evaluate the composition of functions v(t(2))

Explanation:

Step 1) Evaluate the inner function.

$$t(2) = 4x - 1$$

$$t(2) = 4 \times 2 - 1$$

$$t(2) = 8 - 1$$

$$t(2) = 7$$

Step 2) Insert the answer from step 1 into outer function and evaluate further.

$$v(x) = x^2 + 4$$

$$v(7) = 7^2 + 4$$

$$v(7) = 49 + 4$$

$$v(7) = 53$$

So, the answer is t(2) = 7 and v(7) = 53.