Quiz 8.6 – Integration by Substitution

1. (1 point) —alfredLibrary/AUCI/chapter8/lesson6/quiz/indefiniteusub3pet.pg—

For the indefinite integral $\int x^2\sqrt{9+x^3}dx$, a good choice for a u -substitution is

$u =$ _____

$du =$ _____ (be sure to include dx)

Now make the substitution into the given integral to get an integral in terms of u only, and its antiderivative in terms of u only:

$\int$ _____ = _____.

Therefore, the given integral in terms of x is $\int x^2\sqrt{9+x^3}dx =$ _____.

2. (1 point) —alfredLibrary/AUCI/chapter8/lesson6/quiz/definiteusub21.

Evaluate the definite integral using an appropriate u-substitution.

$\int_0^{\sqrt{\pi}} x\cos(x^2)\,dx =$ _____