Quiz 8.6 – Integration by Substitution

1. (1 point) —alfredLibrary/AUCI/chapter8/lesson6/quiz/indefiniteusub3pet. $\int g =$ = ______ For the indefinite integral $\int x^2 \sqrt{9 + x^3} dx$, a good choice for a u -substitution is ______ Therefore, the given $\int x^2 \sqrt{9 + x^3} dx =$ _______

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:

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

2. (1 point)—alfredLibrary/AUCl/chapter8/lesson6/quiz/definiteusub21. Evaluate the definite integral using an appropriate *u*-substitution.

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