MORE ON SUBSTITUTION

1. If $\int_a^b f(x)dx = K$, evaluate the following integrals in terms of K.

A.. $\int_{a+5}^{b+5} f(x-5)dx =$

B. $\int_a^b [f(x)+5]dx =$

C. $\int_{a/5}^{b/5} f(5x)dx =$

2. If $\int_3^6 f(z)dz = 4$, evaluate the following integrals exactly by using appropriate substitution and limits.

A. $\int_1^2 f(3z)dz$

B. $\int_{0.5}^2 f(7-2z)dz$

C. $\int_4^7 (f(z-1)+5)dz$

3. Evaluate $\int \sin^2(5\theta + 3)d\theta$ using the indicated methods.

A. Use double angle formula:

B. Use the integration table.

C. Use integration by parts

4. Given the mathematical fact, $\int_0^\pi \ln(a + b\cos(x))dx = 2\pi \ln(2)$, for some positive a and b, find the

exact value of $\int_0^{\frac{\pi}{5}} \ln(a + b\cos(5x))dx$.