

**Substitution or NOT? If not, why? If yes, what is u? (or—what are you?)**  
**DO NOT INTEGRATE!**

1.  $\int(2x^2 - 3x^4)dx$

2.  $\int(2x - 3)^3 dx$

3.  $\int(x + 1)(3x - 2)dx$

4.  $\int(x^2 \sqrt{x})dx$

5.  $\int(\sin x \cos x)dx$

6.  $\int(\sin 2x)dx$

7.  $\int(\sin x - \cos x)dx$

8.  $\int(x \sin x^2)dx$

What's the difference between  $\int(\sin x^2)dx$ ,  $\int(\sin x)^2 dx$ , and  $\int(\sin^2 x)dx$ ?