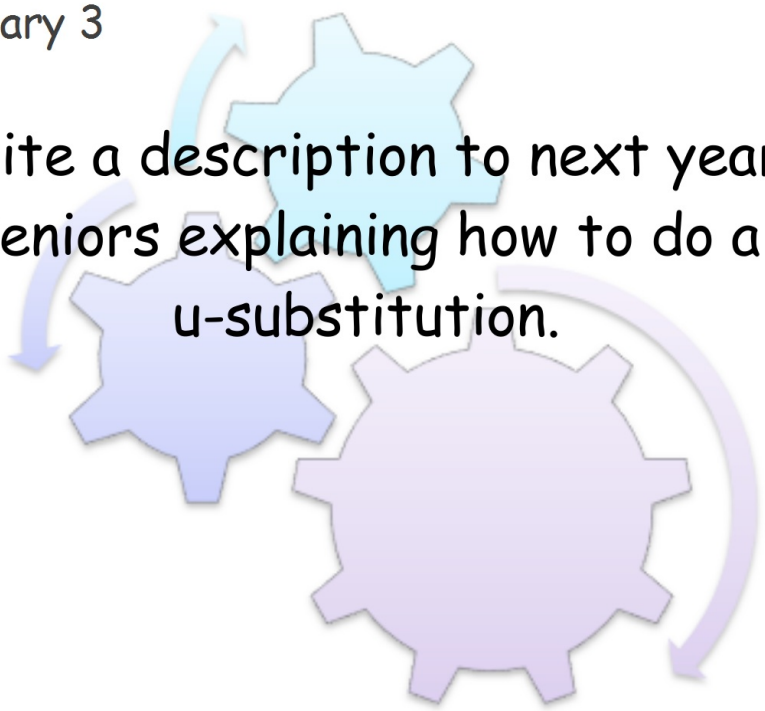
February 3

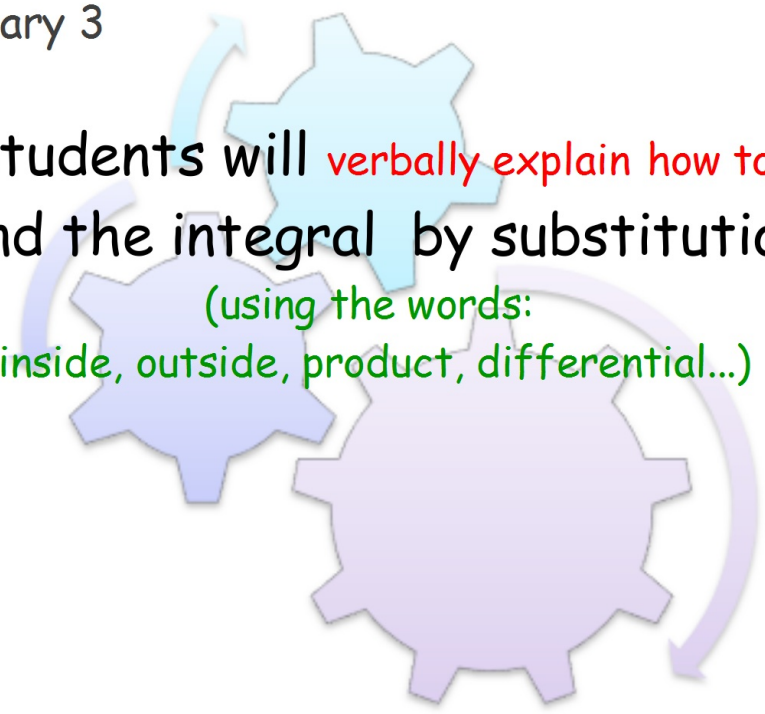
Write a description to next year's seniors explaining how to do a u-substitution.



February 3

Students will verbally explain how to find the integral by substitution

(using the words:
inside, outside, product, differential...)



49. $\int \frac{\cos\sqrt{t}}{\sqrt{t}}\,dt$

Show Answer

$u=\sqrt{t}$

$u=t^{1/2}$

$du=\frac{1}{2}t^{-1/2}\,dt$

$du=\frac{1}{2}\cdot\frac{1}{\sqrt{t}}\,dt$

$2\sqrt{t}\,du=dt$

$$\int \frac{\cos(u)}{\sqrt{t}}\cdot\frac{2\sqrt{t}\,du}{1}$$

$$\int \cos(u)\cdot 2\,du$$

$$2\int \cos(u)\,du$$

$$=2\sin(u)+C$$

$$=2\sin(\sqrt{t})+C$$