


# REVIEW

1.  $y = x^2 - 2x$   $y = 7x - 8$   
 $x^2 - 2x = 7x - 8$   
 $x^2 - 2x - 7x + 8 = 0$   
 $x^2 - 9x + 8 = 0$   
 $(x-1)(x-8) = 0$   
 $x-1=0$   $x-8=0$   
 $x=1$   $x=8$

2.  $\int_1^3 x^2 dx$   
 $= \left[ \frac{x^3}{3} \right]_1^3$   
 $= \frac{3^3}{3} - \frac{1^3}{3}$   
 $x=3$   $x=1$   
 $\frac{27}{3} - \frac{1}{3}$   
 $\frac{26}{3}$

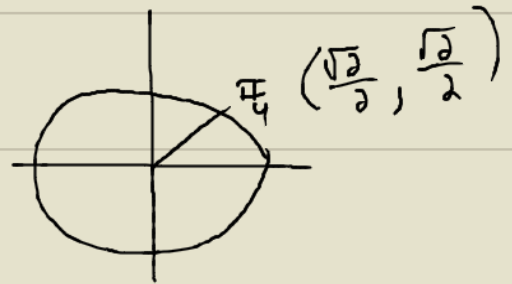
3.  $\int_{-a}^a x^2 dx = 2 \int_0^a x^2 dx$   
 $= 2 \left[ \frac{1}{3} x^3 \right]_0^a$   
 $= 2 \left[ \frac{1}{3} (a)^3 - \frac{1}{3} (0)^3 \right]$   
 $= 2 \left( \frac{8}{3} \right)$   
 $= \frac{16}{3}$



4.  $\int x e^{x^2-3} dx$   
 $u = x^2 - 3$   $du = 2x dx$   
 $\frac{1}{2} \int 2x e^{x^2-3} dx$   
 $\frac{1}{2} \int e^u du$   
 $\frac{1}{2} e^u + C$   
 $\frac{1}{2} e^{x^2-3} + C$

1.  $\int e^u$

5.  $\sin \frac{\pi}{4}$   
 $= \frac{\sqrt{2}}{2}$



2.  $\int (u)^{\text{POWER}}$

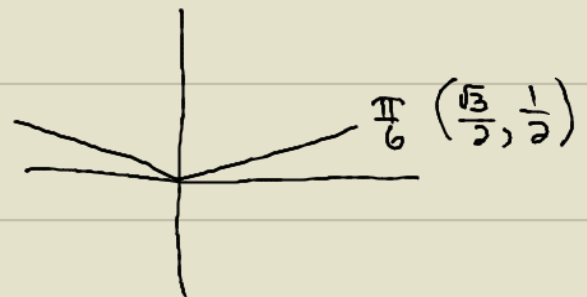
3.  $\int \sqrt{u}$

4.  $\int \frac{1}{u}$

6.  $\sin x = \frac{1}{2}$

$x = \frac{\pi}{6}, \frac{5\pi}{6}$

$\left( -\frac{\sqrt{3}}{2}, \frac{1}{2} \right)$   $\frac{5\pi}{6}$



7.  $\int \frac{1}{x} dx$

$= \ln|x| + C$