$$\int \tan^2\theta \, d\theta$$

f	f'
x^2	$2x$
x^3	$3x^2$
$\sin x$	$\cos x$

$$\frac{\sin^2\theta}{\cos^2\theta} + \frac{\cos^2\theta}{\cos^2\theta} = \frac{1}{\cos^2\theta}$$

$$\tan^2\theta + 1 = \sec^2\theta$$

$$\boxed{\tan^2\theta = \sec^2\theta - 1}$$

$$1 + \cot^2\theta = \csc^2\theta$$

$$\int \sec^2\theta - 1 \, d\theta$$

$$\int \sec^2\theta \, d\theta - \int 1 \, d\theta$$

$$\tan\theta - \theta + c$$

$$\int_2^8 f(x)\,dx = 10 \quad -3 = 7$$

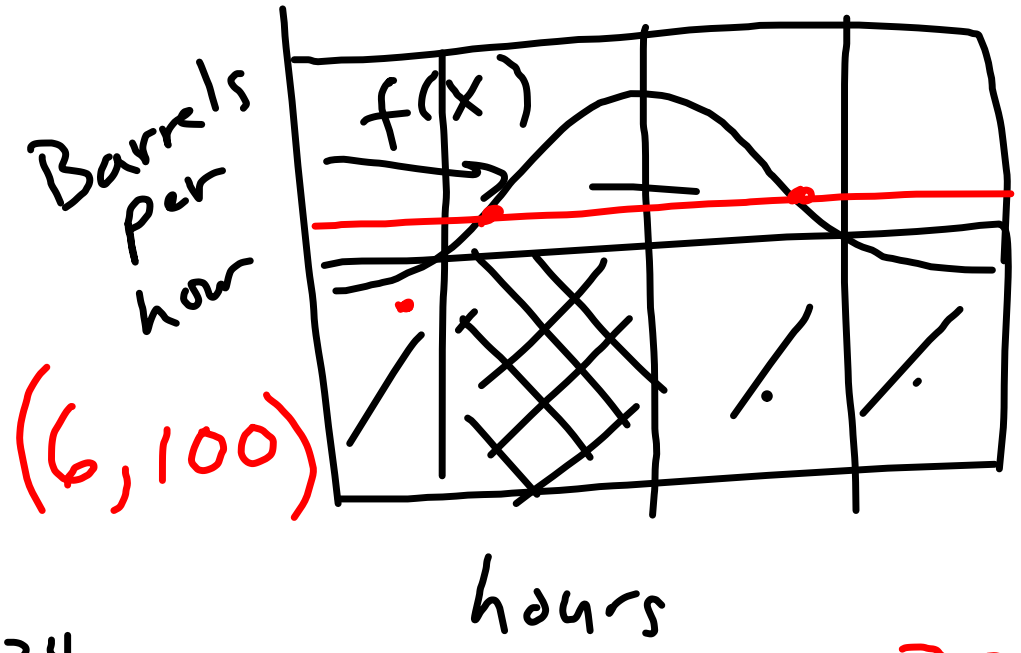
$$\int_2^8 6f(x) - 3\,dx = 42$$

$$6\int_2^8 f(x)\,dx - \int_2^8 3\,dx$$

$$6(10) - 3x\Big|_2^8$$

$$60 - \left(3(8) - 3(2)\right)$$

$$42$$



$$\int_0^{24} f(x)\,dx \approx 3000$$

$$\frac{3000}{24} = 125$$

$$\frac{d^2y}{dx^2} = 2 - 6x \qquad y'(0) = 4 \quad y(0) = 1$$

$$y' = \int 2 - 6x \, dx$$

$$y' = 2x - 3x^2 + C$$

$$y'(0) = 2(0) - 3(0)^2 + C$$

$$4 = C$$

$$y = \int 2x - 3x^2 + 4 \, dx$$

$$y = x^2 - x^3 + 4x + C$$

$$y = x^2 - x^3 + 4x + 1$$

$$\int x \sin x \, dx = F(x) + C$$

$$F(x) = \int_0^x t \sin t \, dt$$