

$$\text{Medelvärde : } m = \frac{1}{b-a} \int_a^b f(x) dx$$

$$a) \quad m = \frac{1}{\pi-0} \int_0^{\pi} \sin x dx = \frac{1}{\pi} \left[ -\cos x \right]_0^{\pi} =$$

$$= \frac{1}{\pi} \left( -\cos \pi - (-\cos 0) \right) = \frac{2}{\pi}$$

$$b) \quad m = 1 \text{ ger}$$

$$\frac{1}{b-1} \int_0^b \frac{6}{x^2} dx = \frac{1}{b-1} \left[ -\frac{6}{x} \right]_1^b =$$

$$= \frac{1}{b-1} \left( -\frac{6}{b} - \left( -\frac{6}{1} \right) \right) =$$

$$= \frac{1}{b-1} \left( 6 - \frac{6}{b} \right) = 1$$

$$\Leftrightarrow$$

$$6 - \frac{6}{b} = b-1$$

$$\Leftrightarrow$$

$$6b - 6 = b^2 - b$$

$\Leftrightarrow$

$$b^2 - 7b + 6 = 0$$

$\Leftrightarrow$

$$b = 6 \quad \text{eller} \quad b = 1$$

Men  $b > 1$  så  $b = 6$