

## 2.4-Sections courantes

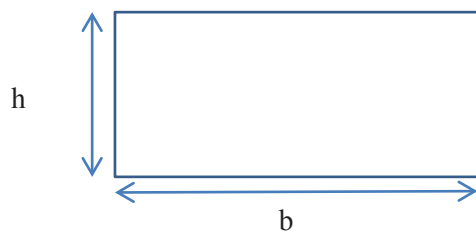
Pour  $\Omega_1$  on utilise des expressions approchées. Pour les formes usuelles on peut retenir :

$\Omega$  = aire de la section droite

$\Omega'$  = section réduite pour le calcul de la contrainte maximale sous effort tranchant

$\Omega_1$  = section réduite pour le calcul de la déformation sous effort tranchant

Rectangle

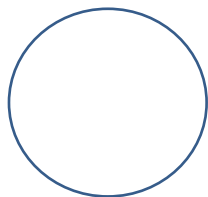


$$\Omega = b h$$

$$\Omega' = 2/3 \Omega$$

$$\Omega_1 = 5/6 \Omega$$

Cercle de rayon R

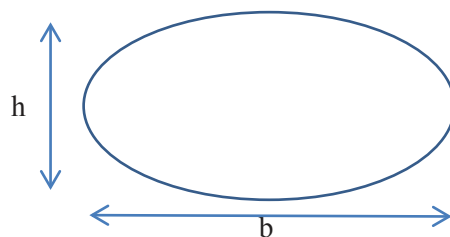


$$\Omega = \pi R^2$$

$$\Omega' = 3/4 \Omega$$

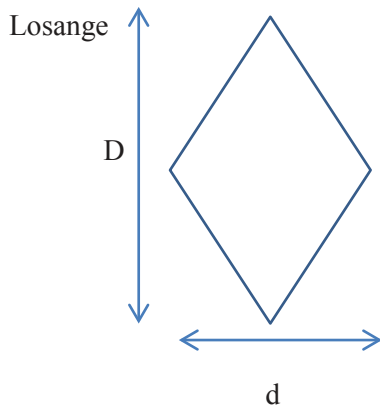
$$\Omega_1 = 9/10 \Omega$$

Ellipse



$$\Omega = \pi/4 b h$$

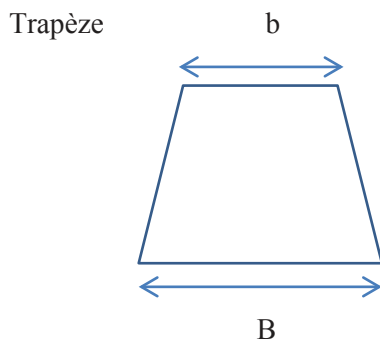
$$\Omega' = 3/4 \Omega$$



$$\Omega = D d / 2$$

$$\Omega' = 8/9 \Omega$$

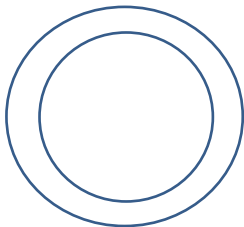
$$\Omega_1 = 30/31 \Omega$$



$$\Omega = (B + b) h / 2$$

$$\Omega' = 2/3 \Omega$$

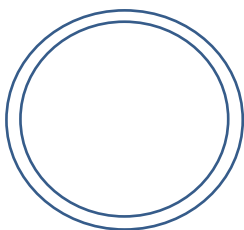
Anneau de rayon  $R_i$  intérieur,  $R_e$  extérieur



$$\Omega = \pi (R_e^2 - R_i^2)$$

$$\Omega' = 3/4 \Omega (1 - R_i/R_e) [1 + (R_i/R_e)^2] / [1 - (R_i/R_e)^3]$$

Anneau de faible épaisseur ( $e$ ) et rayon  $R$  extérieur.  $e < R/10$



$$\Omega = 2\pi R e$$

$$\Omega' = 1/2 \Omega$$

$$\Omega_1 = 1/2 \Omega$$