



Sect	Area in ²	y from ref	Ay
I	8	2	16
II	-5.25	2	-10.5
III	2.25	5.5	12.375
$\Sigma A = 5$		$\Sigma Ay = 17.875$	

$$\text{NEW CENTROID} = \frac{17.875}{5} = 3.575$$

Area moment of inertia

Sect	$\frac{1}{12}(b)(h^3) + [Ad^2]$
I	$\frac{1}{12}(2)(4^3) = 10.666 + [(8)(2-3.575)^2] = 30.51$
II	$\frac{1}{12}(1.5)(3.5^3) = -5.359 + [(-5.25)(2-3.575)^2] = -18.38$
III	$\frac{1}{12}(1.75)(3^3) = 1.6875 + [(2.25)(5.5-3.575)^2] = 10.03$
$\underline{22.15 \text{ in}^4}$	