



Part	A (mm ²)	\bar{x} (mm)	\bar{y} (mm)	$A\bar{x}$ (mm ³)	$A\bar{y}$ (mm ³)
1	4000	50	20	$200(10^3)$	$80(10^3)$
2	2000	$100/3$	$40 + \frac{40}{3}$	$66.7(10^3)$	$106.7(10^3)$
3	$-\pi(20^2)$	40	30	$-50.3(10^3)$	$-37.7(10^3)$

Totals 4740

$216(10^3)$ $149.0(10^3)$

$$\bar{X} = \frac{\sum A\bar{x}}{\sum A} = \frac{216(10^3)}{4740} = 45.6 \text{ mm}$$

$$\bar{Y} = \frac{\sum A\bar{y}}{\sum A} = \frac{149.0(10^3)}{4740} = 31.4 \text{ mm}$$