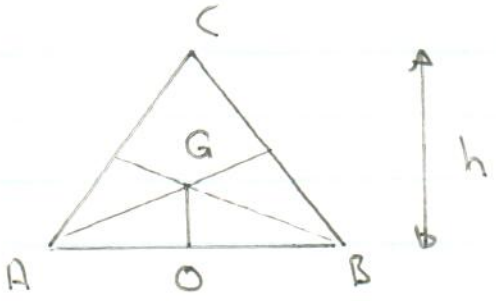
Exercise 8A

(3) $h = 6,9 \sin 60°$

$= 5,976$ cm

$\overline{OG} = \frac{1}{3}h = 1,99$... cm

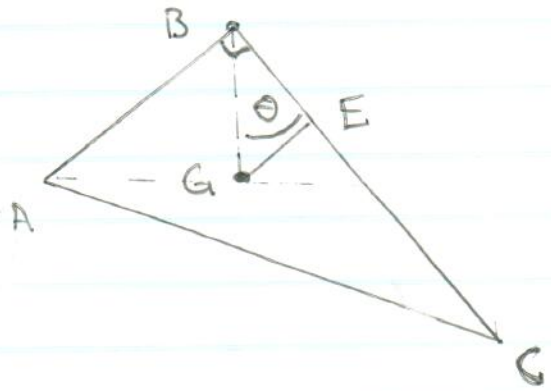


Exercise 8A

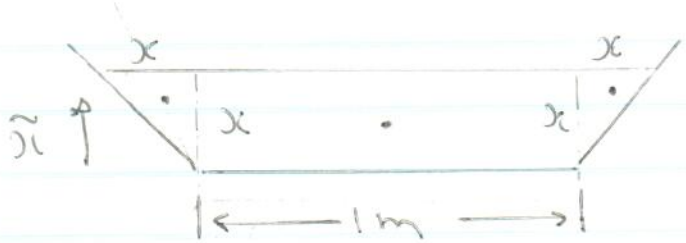
(4) $\overline{EG} = \frac{1}{3}\overline{AB} = 15\,cm$

$\overline{BE} = \frac{1}{3}\overline{BC} = 20\,cm$

$\theta = \tan^{-1}\left(\frac{\overline{EG}}{\overline{BE}}\right) = 36,9^\circ$



(8)



	2Δ	⌐¬	
m:	$2[\frac{1}{2}x \cdot x]k$	$1(x)k$	$(x^2 + x)k$
$\bar{x}$:	$\frac{2}{3}x$	$0,5x$	$\bar{x} = 0,5$

$$\therefore \bar{x} = \frac{[x^2\ \frac{2}{3}x + 0,5x^2]k}{(x^2 + x)k} = 0,5$$

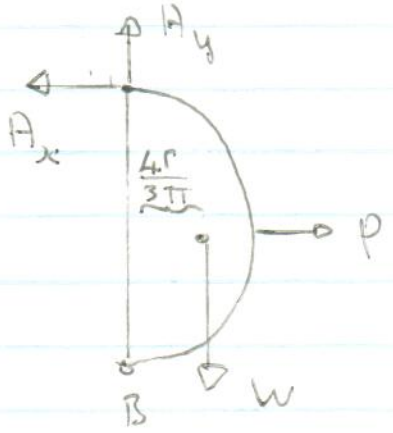
$$\therefore \bar{x} = 0,866$$

Miscellaneous exercise 8

(7) +↑) $\Sigma F_y = 0$

$\therefore A_y - W = 0$

$\therefore A_y = W$



+→) $\Sigma F_x = 0$

$\therefore -A_x + P = 0$

$\therefore A_x = P$

↻) $\Sigma M_A = 0 : \quad W\left(\frac{4r}{3\pi}\right) - P(r) = 0$

$\therefore P = W\frac{4}{3\pi}$

$\therefore A_x = W\frac{4}{3\pi}$

$\therefore A = \sqrt{A_x^2 + A_y^2} = W\sqrt{1+\left(\frac{4}{3\pi}\right)^2}$

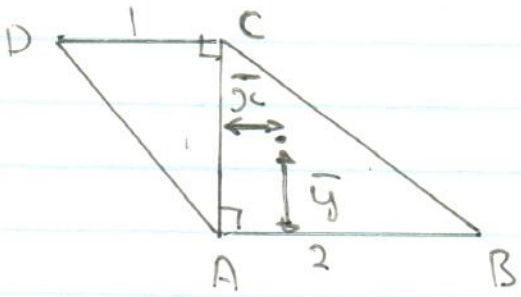
$\therefore A = 1,08\,W$

$\alpha = \tan^{-1}\left(\frac{A_y}{A_x}\right)$

$\therefore \alpha = \tan^{-1}\left(\frac{4}{3\pi}\right) = 23^\circ$

Practice Examination 2, pg. 191

(3)



	Δ ADC	Δ ABC	masa
masa:	$\frac{1}{2}(1)(1)k$	$\frac{1}{2}(2)(1)k$	$1,5k$
$\bar{y}$:	$\frac{2}{3}(1)$	$\frac{1}{3}1$	$\bar{y}$
$\bar{x}$:	$-\frac{1}{3}1$	$\frac{1}{3}2$	$\bar{x}$

$$\bar{x} = \frac{-\frac{1}{3}\left(\frac{1}{2}\right)k + 1\left(\frac{2}{3}\right)k}{1,5k} = \frac{1}{3}\ m$$

$$\bar{y} = \frac{\left(\frac{1}{2}\cdot\frac{2}{3} + 1\left(\frac{1}{3}\right)\right)k}{1,5k} = \frac{4}{9}\ m$$