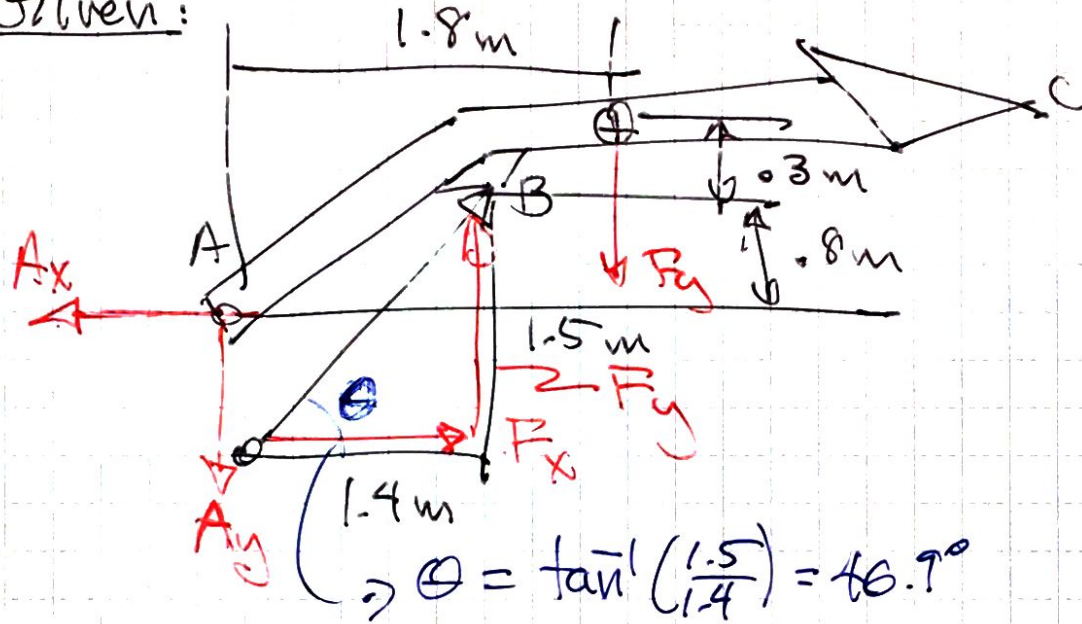


Given:



X: $9.55 \text{ kN} - A_x = 0 \quad A_x = 9.55 \text{ kN}$

Y: $10.23 \text{ kN} - 3.14 \text{ kN} - A_y = 0$
 $\Rightarrow A_y = 7.09 \text{ kN}$

1 SQUARE =

Req'd α_{ABC}

Strategy: Dynamics

$\sum F_x = 0$

$\sum F_y = 0$

$\sum M = I\alpha$

	x	y	M
A	$-A_x$	$-A_y$	$-1.1 A_x$ $+1.8 A_y$
	0	-3.14 kN	0
	9.55 kN	10.23 kN	$-4 \cdot 10.23 \text{ kN}$ $+3(9.55 \text{ kN})$
ma/Iα	0	0	$I\alpha$

$$\Sigma M = I\alpha$$

$$= 9.55(0.3)m \cdot N - 10.23 kN(0.4m) + 7.1 kN(1.8m) - 7.55 kN(1.1m)$$

$$= 2.87 kNm - 4.09 kNm + 12.78 kNm - 10.5 kNm$$

$$= 1.03 kNm = I\alpha = 360 kgm^2 \alpha$$

$$\Rightarrow \frac{1030 N \cdot m}{360 kg \cdot m^2} = \alpha$$

$$= \underline{\underline{2.86 rad/s^2}}$$

If I use a different approach to the problem I get the book's answer of 0.581 rad/s² - can't find my error in this problem (if there is an error!)