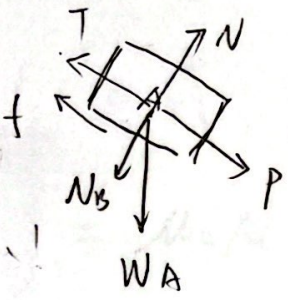
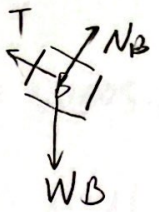
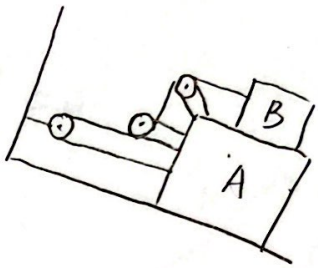
Pb1..

(a)







(b)

$\pm \searrow \Sigma F_x = 0$ $\quad W_A \sin 15° - f - T = 0$

A:

$+\nearrow \Sigma F_y = 0$ $\quad N - N_B - W_A \cos 15° = 0$

$f = \mu N$

B:

$\pm \searrow \Sigma F_x = 0$ $\quad W_B \sin 15° - T = 0$ $\Rightarrow T = W_B \sin 15°$

$+\nearrow \Sigma F_y = 0$ $\quad N_B - \cos 15° W_B = 0$ $\Rightarrow N_B = W_B \cos 15°$

$W_A \sin 15° - f - W_B \sin 15° = 0$ $\quad f = 103.5$

$N - W_B \cos 15° - W_A \cos 15° = 0$ $\quad N = 580$

$\mu = \frac{N}{f} = 0.17 < 0.4$ ✓ ok

(c)

$\pm \searrow \Sigma F_x = 0$ $\quad P + W_A \sin 15° - f - T = 0$

$P + W_A \sin 15° - \mu N - W_B \sin 15° = 0$

$P = 0.4 \times 580 - 103.5$

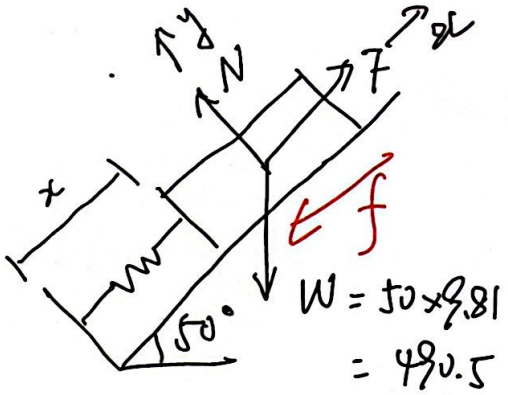
$= 128.5\ N$

P62

$\Sigma F_x = 0 \quad +\nearrow \quad F - f - W\sin 50° = 0$

$\Sigma F_y = 0 \quad +\nwarrow \quad N - W\cos 50° = 0$

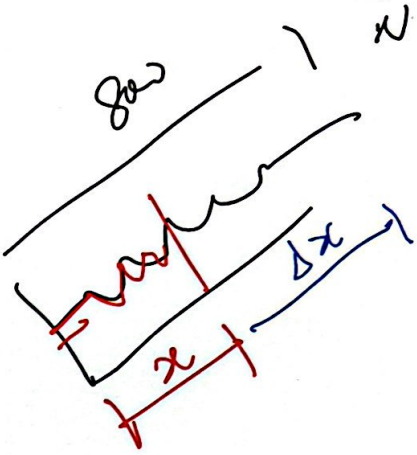
$f = \mu_c N = 0.25N$



$N = 315.3\ N$

$f = 110.25$

$F = f + W\sin 50° = 484\ N$



$F = k\Delta x$

$= k(800 - x)$

$k = 660$

$x = 63.5\ mm.$

$660(800 - x) - f - W\sin 50° = 0$