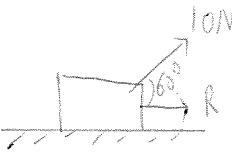
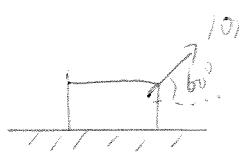
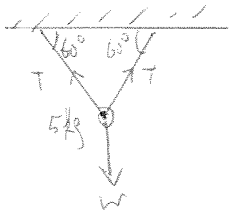
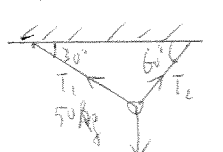


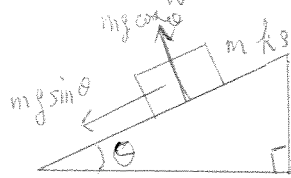
力的分解 Resolving Components

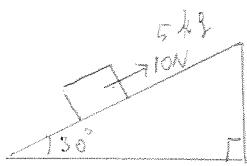
1.  $R = 10 \cos 60^\circ = 5N$

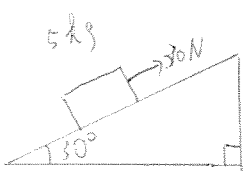
2.  $f = 3N$
 $R =$

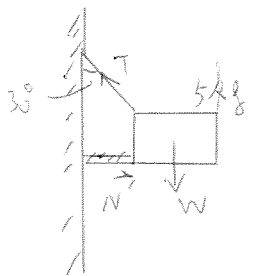
3.  $W = 5 \times 10 = 50N$
 $T \sin 60^\circ + T \sin 60^\circ = 50$
 $T =$

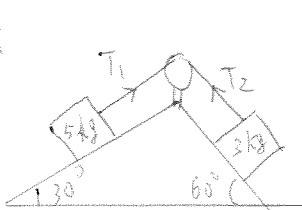
4.  $\text{Find } T_1 \text{ and } T_2$

5. 

6.  $R =$

7.  $f_{\max} = 5N$
 $R =$

8.  $\text{Find } T, N,$

9. A 

C.

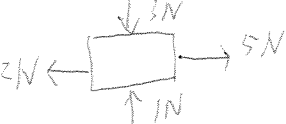
力的合成：当多个力施加在物体上，就需要用合力方法处理
 請計算以下各題施加於物體的合力 Resultant force 或 合力 F_{net} 或 剩力 net force

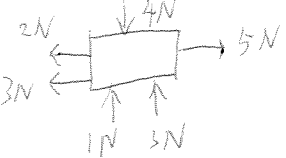
1.  Ans: $R = 5N$ 向右

2.  Ans:

3.  Ans:

4.  Ans:

5.  Ans:

6.  Ans:

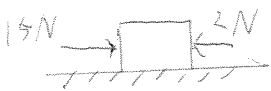
摩擦力：摩擦力 friction 永遠與物體運動的方向相反，
 當物體未被拉動或推倒時，其值與合力/剩力相同

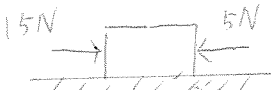
7. 最大 $f = 10N$

 粗糙表面
 Ans: $f = 5N$ 向左

8. 最大 $f = 10N$

 Ans: $F_{net} =$

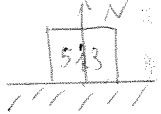
9. 最大 $f = 10N$

 Ans: $F_{net} =$

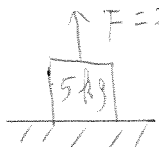
10. 最大 $f = 10N$

 Ans: $F_{net} =$

重量: 物体出现在某星球时就会受着该星球的引力所影响, 有力施加在该物体上, 称为重量或重力 weight

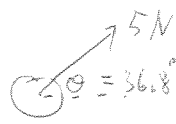
11.  Ans: $W = mg = 5 \times 10 = 50 \text{ N}$ 或 $W = 5 \times 9.8 = 49.0 \text{ N}$

12. 求该物体的重力, 取 $g = 10 \text{ N kg}^{-1}$
 Ans:

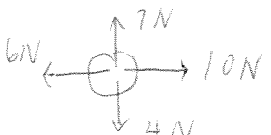
13. 反作用力
 Ans: $N = W = 5 \times 10 = 50 \text{ N}$

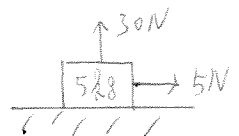
14.  求地面施加于物体的反作用力
 Ans:

平面合力 Coplanar forces

12.  该物体最后合力 

$R^2 = 3^2 + 4^2, R = 5 \text{ N}$
 $\tan \theta = \frac{3}{4}, \theta = 36.8^\circ$

13.  合力 $R =$ 方向 $\theta =$

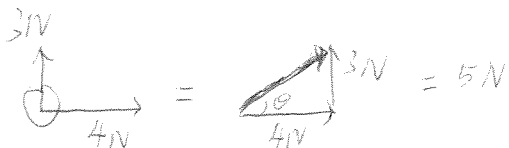
14.  合力 $R =$ 方向 =

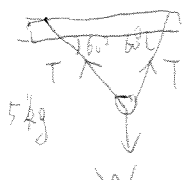
15.  $R =$ $\theta =$

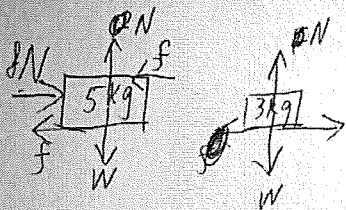
向量的合成

A.  $= 8 \text{ N}$

B.  $= 2 \text{ N}$

C.  $= 5 \text{ N}$

D.  $T = ?$



$$f = ma$$

$$F = ma$$

$$8 - f = 5a$$

$$f = 3 \times 1$$

$$f = 3N$$

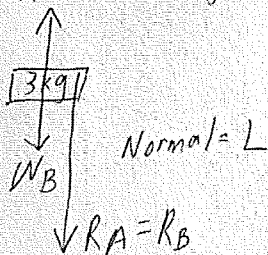
$$F = ma$$

$$8 - f = 5a \quad \text{--- (1)}$$

$$3kg \quad f = 3a \quad \text{--- (2)}$$

$$8 - 3a = 5a$$

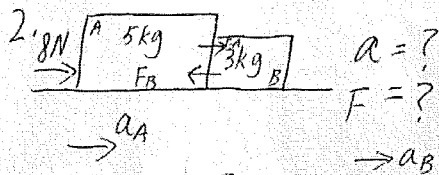
$$8 = 8a$$



$$N = W_A + R_B$$

$$= W_A + R_A$$

$$= W_A + W_B$$



$$F = ma$$

$$8 - F_B = 5a \quad \text{--- (1)}$$

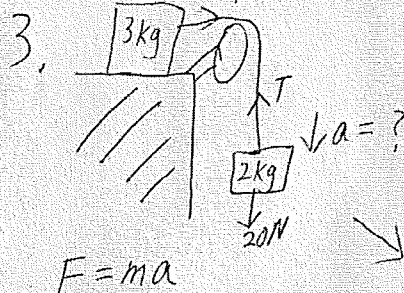
$$F_A = 3a \quad \text{--- (2)}$$

$$F_B = 3a$$

$$F_B = 1N$$

$$\text{(2) in (1)} \quad 8 - 3a = 5a$$

$$a = 1 \text{ ms}^{-2}$$



$$F = ma$$

$$20 = 5a$$

$$a = 4 \text{ ms}^{-2}$$



$$F = ma$$

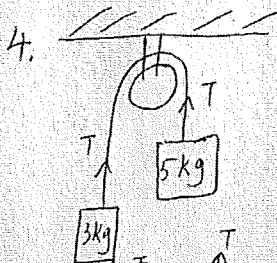
$$T = 3a \quad \text{--- (1)}$$

$$20 - T = 2a \quad \text{--- (2)}$$

$$\text{sub (2) into (1)} \quad 20 - 3a = 2a$$

$$a = 4 \text{ ms}^{-2}$$

$$T = 12$$



$$5kg = 50 - T = 5a \quad \text{--- (1)}$$

$$3kg = T - 30 = 3a \quad \text{--- (2)}$$

$$a = \frac{20}{8}$$

$$a = 2.5 \text{ ms}^{-2}$$

$$\text{from (2)} \quad T - 30 = 3 \times 2.5$$

$$T = 37.5N$$

$$F = ma$$

$$50 - T = 5a \quad \text{--- (1)}$$

$$T - 30 = 3a \quad \text{--- (2)}$$

$$\text{sub (2) into (1)}$$

$$50 - (30 + 3a) = 5a$$

$$50 - 30 - 3a = 5a$$

$$20 = 8a$$

$$a = 2.5 \text{ ms}^{-2}$$

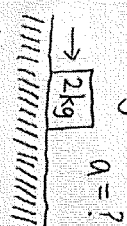
$$T = 30 + 3(2.5)$$

$$= 37.5N$$

$$F = ma$$

力(N) = 質量(kg) × 加速度(ms^{-2})

1. 8N

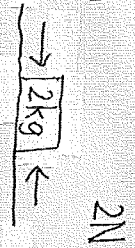


$$F = ma$$

$$8 = 2a$$

$$a = 4ms^{-2}$$

2. 8N



$$F_{net} = ma$$

$$8 - 2 = 2a$$

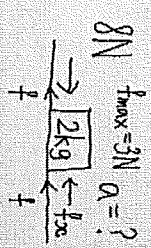
$$a = 3ms^{-2}$$

3.

A與B之間有足夠的摩擦力



4.

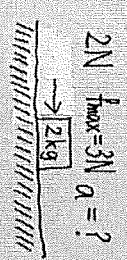


$$F = ma$$

$$8 - 3 = 2a$$

$$a = \frac{5}{2}ms^{-2}$$

5.



$$F = ma$$

$$2 - 2 = 2a$$

$$a = 0$$

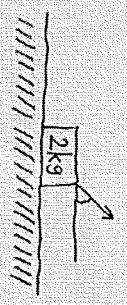
力的分析



$$a \downarrow$$

$$g = 10ms^{-2}$$

6.



7.



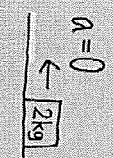
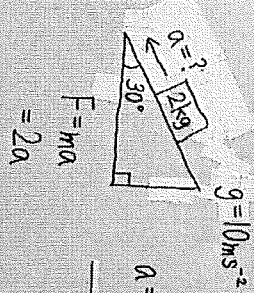
$$F = ma$$

$$8 \cos 60^\circ - 3 = 2a$$

$$a = \frac{1}{2}ms^{-2}$$

8.

9.



$$a = 0$$

$$g = 10ms^{-2}$$