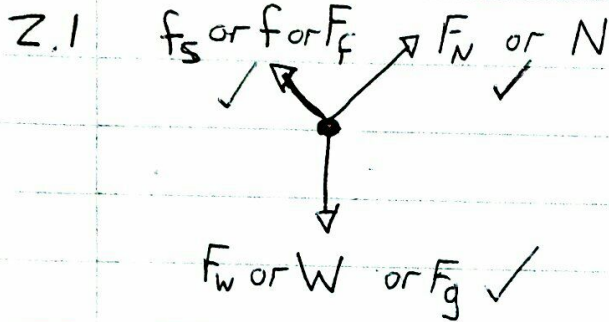


- 1.1 B ✓✓
- 1.2 D ✓✓
- 1.3 A ✓✓
- 1.4 C ✓✓
- 1.5 D ✓✓

- 1.6 B ✓✓
- 1.7 C ✓✓
- 1.8 B ✓✓
- 1.9 C ✓✓
- 1.10 A ✓✓

(20)



- N must be  $\perp$  to surface
- $F_s$  must be  $\parallel$  to surface.
- W must be <sup>drawn</sup> vertically downwards.

(3)

2.2  $F_{g\parallel} = F_g \sin 32^\circ$  (or  $F_g \cos 58^\circ$ )  
 $= (3)(9,8) \sin 32^\circ$  ✓  
 $= 15,58 \text{ N}$  ✓

$F_{g\perp} = F_g \cos 32^\circ$  (or  $F_g \sin 58^\circ$ )  
 $= (3)(9,8) \cos 32^\circ$  ✓  
 $= 24,93 \text{ N}$  ✓ (4)

2.3  $F_s = F_{g\parallel}$   
 $= 15,58 \text{ N}$  ✓  
 $N = F_{g\perp}$   
 $= 24,93 \text{ N}$  ✓

(+) marking from 2.2

$F_s = \mu_s N$   
 $\mu_s = \frac{15,58}{24,93}$   
 $= 0,62$  ✓

(3)

3.1 When a resultant force acts on an object, the object will accelerate in the direction of the force at an acceleration directly proportional to the force and inversely proportional to the mass of the object. ✓ 2

3.2.1. 3 kg:

$$F_{\text{net}} = ma$$

$$T - W = (3)a$$

$$T = 3a + 29,4 \quad \text{--- (1) ✓}$$

10 kg:

$$F_{\text{net}} = ma \quad \checkmark$$

$$F_A - T = 10a$$

$$350 - T = 10a$$

$$T = 350 - 10a \quad \text{--- (2) ✓}$$

$$\text{(1) = (2)} : 3a + 29,4 = 350 - 10a \quad \checkmark$$

$$13a = 350 - 29,4$$

$$13a = 320,6$$

$$a = 24,66 \text{ m}\cdot\text{s}^{-2} \quad \checkmark$$

-1 no of 6  
incorrect unit

$$\begin{aligned} 3.2.2 \quad T &= 3(24,66) + 29,4 \quad \checkmark \\ &= 103,38 \text{ N} \quad \checkmark \end{aligned}$$

$$\begin{aligned} \text{or } T &= 350 - 10(24,66) \\ &= 103,40 \text{ N} \end{aligned}$$

2