

Forces Review

1. Inertia - tendency of an object to keep doing what it is doing

2. ① A moving object always moves in a straight line unless a force acts on it

• tendency of an object at rest to remain at rest and an object in motion to stay in motion unless acted on by an unbalanced force.

② $F=ma$ The acceleration of an object is directly proportional to the net force and inversely proportional to its mass.

③ forces always act in equal but opposite pairs

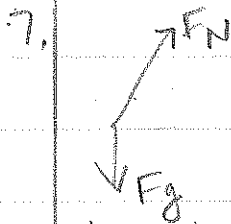
3. force - what causes other objects to move, push or pull

4. Smaller mass acc. more; larger mass acc. less

5. $F=ma$ $W=mg$
4.6(5) 45 = m(9.8)

$F=23\text{ N}$ 4.6 = m

6. Equal to 1300N



8. bat hits ball, ball hits bat w/ equal forces

9. $F_f = \mu F_N$

$F_N = W = mg$
 $196 = 20(9.8)$

$75\text{ N} = \mu 196$
 $0.38 = \mu$

10. $F = ma$ $W = mg$
 $10 = 1.53(a)$ $15 = m(9.8)$
 $6.5 \text{ m/s}^2 = a$ $1.53 = m$

11. $175 = m(9.8)$ 17.9 kg

12. zero

13. has \emptyset acceleration

14.



15. $\Sigma F = 42N$

16. all forces acting on an object are equal \uparrow force = \downarrow force $\Sigma F = 0$

17. 225N

18. force that opposes motion

19. $W = mg$ $W = 50(9.8)$ $490N$

20. No.

21. it increases

22. N $\text{kg} \cdot \text{m/s}^2$

23. Can be

24. NO

25. NO