

p75 MC ~~1~~, 3, 6, 10, 16  
p77 Problems 1, 6, 37, 39

①

(11)

- Multiple Choice

~~Answers for  
p75-77~~

- 2) A. Boat continue + car accel under  
B. car push boat forward X  
C. non-inertial frame b/c boat move w/o external forces  
C. moving w/ car seems at rest

(1/2)  
1 each

3) Child lurch forward when stop stroller

a) Child doesn't lurch but continues motion  
NIL

c) Inside boat, get it to move

d) Throw cargo out N3L

10) 1kg apple falls on Earth, true about  $F_g$ ?

b) same magnitude N3L  $F_g = \bar{F}_g$

16) Closed box - ball + bird

Balance w/ stationary bird  
What about when bird flaps?

Bird box same  $F_{air} = F_g = F_{box}$

## - Problems

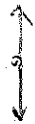
Explain

1) 4 balls, unlabeled diagram, match w/ description

(1) Ball moving up after leave hand

(d)   $F_g$  only


(2) Hold ball in hand

(a)  F balance

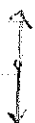
(3) Ball falling

(d)   $F_g$  only

(4) Throwing ball (still in hand)

(b)   $F_c \text{ up} > F_g$

(5) Lift ball at constant pace

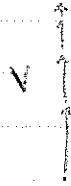
(a)  F balance

c) Throw ball up

a) motion diagram + Force diagram

way up:

A)



B)



way down:

C)

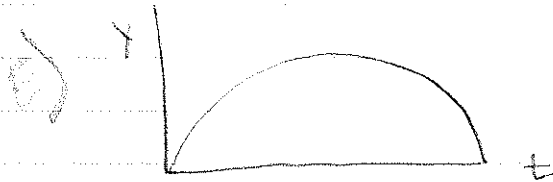


D)



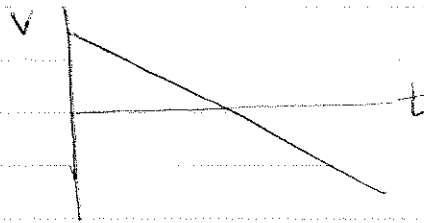
(3)

b) Position vs Time



Velocity vs Time

F)



39)  $F_g = 1\text{ N}$     a) same  $F$      $NBL$

b)  $a_{\text{appu}} = \frac{F}{m} = \frac{1\text{ N}}{100\text{ kg}} = 10\text{ m/s}^2$

(1)  $a_{\text{earth}} = \frac{F}{m} = \frac{1\text{ N}}{6 \times 10^{24}\text{ kg}} = 1.7 \times 10^{-25}\text{ m/s}^2$

compare  $\frac{a_E}{a_a} = \frac{1.7 \times 10^{-25}\text{ m/s}^2}{10\text{ m/s}^2} = 1.7 \times 10^{-26}$

ratio is unitless