

# Cornell Notes

Per. 4.

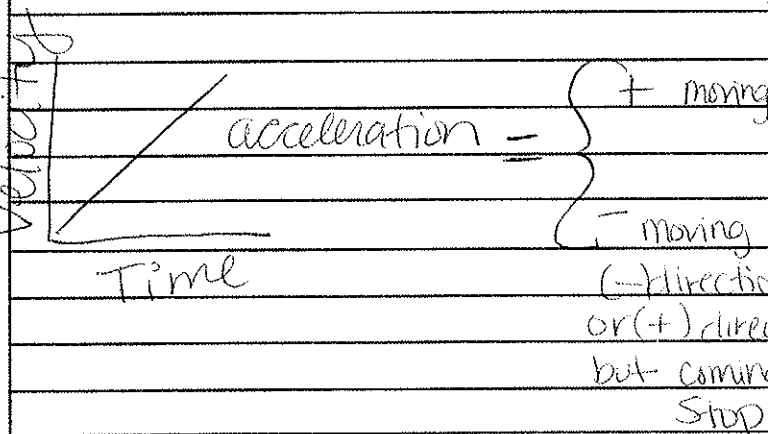
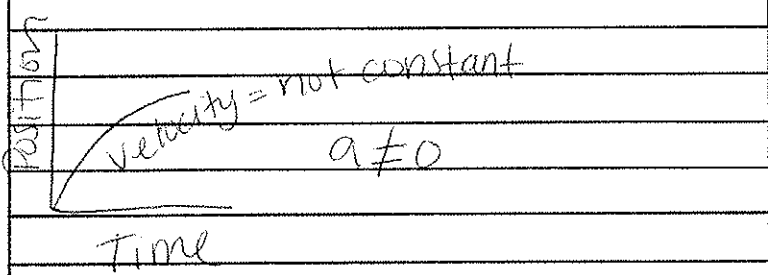
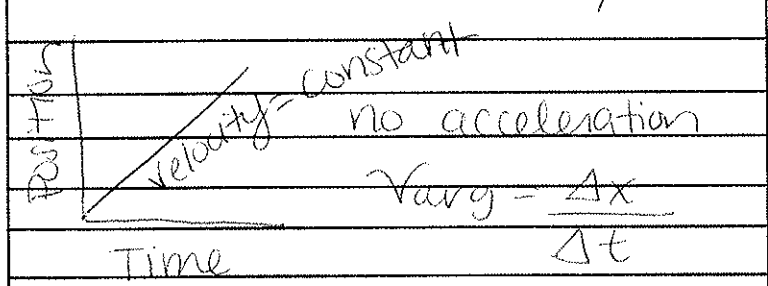
Name Ashley Martinez

Date 9/29/11

Topic Chapter 2 Review

Class/Subject Physics / FRAGOSO

Review Worksheet



Free fall

$$g = \frac{\Delta v}{\Delta t} = -9.81 \text{ m/s}^2 = \text{constant}$$

\*Test TOMORROW Chapt. 2 Study Handouts  
 HW → Finish 11, 13-15

11:15 am

# Cornell Notes

Name

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Topic

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Subject

$$\Delta y = \frac{1}{2} (v_f + v_i) \Delta t$$

$$\Delta y = v_i \Delta t + \frac{1}{2} g \Delta t^2$$

$$v_f = v_i + g \Delta t$$

$$v_f^2 = v_i^2 + 2g \Delta y$$

Falling  
Objects  
from (Handout)  
pg 11.

1) D - all of the above

2) C - undergoes a velocity decrease of 9.81 m/s during each second.

3) C = ~~XXXXXXXXXX~~  $(\Delta t)^2$

4) C =  $\sqrt{\Delta x}$

5) C = I and III

6) B =  $\Delta v_2 - 3$

7) D =  $\frac{2}{3} v_3$

11:30

# Cornell Notes

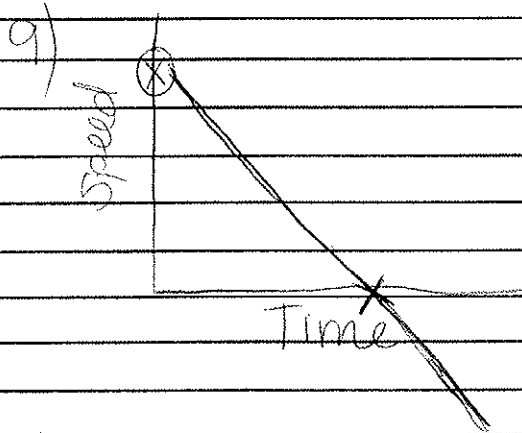
Name

Date

Topic

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Subject

$$8) C - 2.0 - 3.0 \text{ s}$$



\*typo on worksheet  
 ~~$g = 9.81 \text{ m/s}^2$~~

$$10) g = -9.81 \text{ m/s}^2$$

$$v_f^2 = v_i^2 + 2g \Delta y$$

$$v_f^2 = -3.0^2 + 2(-9.81)(-4.0)$$

$$v_f^2 = 9 + 78.48$$

$$v_f^2 = 87.48$$

$$v_f = -9.35 \text{ m/s}$$

# Cornell Notes

Name

Date

Topic

Class/  
Subject

12:00  
am

Free-Fall

$v = 0 \text{ m/s}$

$\Delta y = +$

$\Delta v = +$

$\Delta y = -$

$v = -$

# Chapter 2 Test Review

9/29/11

**Chapter 2** Standardized Test Prep

**Multiple Choice**

Use the graphs to answer questions 1–3.

1. Which graph represents an object moving with a constant positive velocity?

A. I      C. III  
B. II      D. IV

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**Chapter 2** Standardized Test Prep

**Multiple Choice, continued**

Use the graphs to answer questions 1–3.

2. Which graph represents an object at rest?

F. I      H. III  
G. II      J. IV

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**Chapter 2** Standardized Test Prep

**Multiple Choice, continued**

Use the graphs to answer questions 1–3.

3. Which graph represents an object moving with a constant positive acceleration?

A. I      C. III  
B. II      D. IV

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**Chapter 2** Standardized Test Prep

**Multiple Choice, continued** *Constant velocity*

4. A bus travels from El Paso, Texas, to Chihuahua, Mexico, in 5.2 h with an average velocity of 73 km/h to the south. What is the bus's displacement?

F. 73 km to the south  
G. 370 km to the south  
H. 380 km to the south  
J. 14 km/h to the south

$v_{avg} = \frac{\Delta x}{\Delta t} = \frac{x_f - x_i}{t_f - t_i}$

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**Chapter 2** Standardized Test Prep

**Multiple Choice, continued**

Use the position-time graph of a squirrel running along a clothesline to answer questions 5–6.

5. What is the squirrel's displacement at time  $t = 3.0$  s?

A. -6.0 m  
B. -2.0 m  
C. +0.8 m  
D. +2.0 m

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**Chapter 2** Standardized Test Prep

**Multiple Choice, continued**

Use the position-time graph of a squirrel running along a clothesline to answer questions 5–6.

6. What is the squirrel's average velocity during the time interval between 0.0 s and 3.0 s?

F. -2.0 m/s  
G. -0.67 m/s  
H. 0.0 m/s  
J. +0.53 m/s

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Chapter 2 Standardized Test Prep

Multiple Choice, *continued*

7. Which of the following statements is true of acceleration?

- A. Acceleration always has the same sign as displacement.
- B. Acceleration always has the same sign as velocity.
- C. The sign of acceleration depends on both the direction of motion and how the velocity is changing.
- D. Acceleration always has a positive sign.

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Chapter 2 Standardized Test Prep

Multiple Choice, *continued*

8. A ball initially at rest rolls down a hill and has an acceleration of  $3.3 \text{ m/s}^2$ . If it accelerates for 7.5 s, how far will it move during this time?

- F. 12 m
- G. 98 m
- H. 120 m
- J. 190 m

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Chapter 2 Standardized Test Prep

Multiple Choice, *continued*

9. Which of the following statements is true for a ball thrown vertically upward?

- A. The ball has a negative acceleration on the way up and a positive acceleration on the way down.
- B. The ball has a positive acceleration on the way up and a negative acceleration on the way down.
- C. The ball has zero acceleration on the way up and a positive acceleration on the way down.
- D. The ball has a constant acceleration throughout its flight.

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Chapter 2 Standardized Test Prep

Short Response

10. In one or two sentences, explain the difference between *displacement* and *distance traveled*.

Disp - change in position from starting to end point

Distance - total length of path followed from starting to end point.

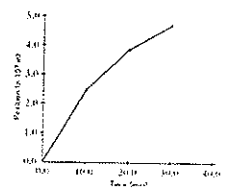
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Chapter 2 Standardized Test Prep

Short Response, *continued*

11. The graph shows the position of a runner at different times during a run. Use the graph to determine the runner's displacement and average velocity:

- a. for the time interval from  $t = 0.0 \text{ min}$  to  $t = 10.0 \text{ min}$
- b. for the time interval from  $t = 10.0 \text{ min}$  to  $t = 20.0 \text{ min}$
- c. for the time interval from  $t = 20.0 \text{ min}$  to  $t = 30.0 \text{ min}$
- d. for the entire run



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Short Response, *continued*

12. For an object moving with constant negative acceleration, draw the following:

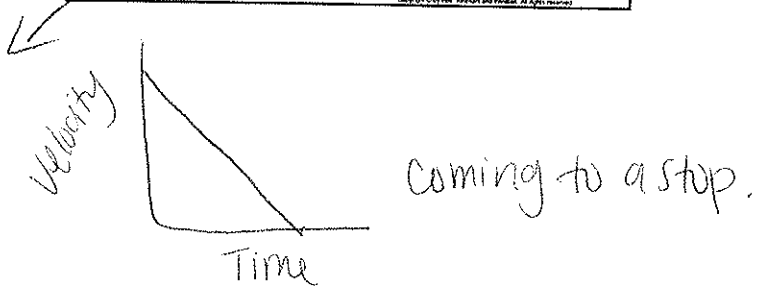
- a. a graph of position vs. time
- b. a graph of velocity vs. time

For both graphs, assume the object starts with a positive velocity and a positive displacement from the origin.

$a = -$   
 $\Delta x = +$   
 $\Delta v = +$

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skip in class  
#11 for HW



Chapter 2 Standardized Test Prep

Short Response, *continued*

13. A snowmobile travels in a straight line. The snowmobile's initial velocity is  $+3.0$  m/s.
- If the snowmobile accelerates at a rate of  $+0.50$  m/s<sup>2</sup> for  $7.0$  s, what is its final velocity?
  - If the snowmobile accelerates at the rate of  $-0.60$  m/s<sup>2</sup> from its initial velocity of  $+3.0$  m/s, how long will it take to reach a complete stop?



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Extended Response

14. A car moving eastward along a straight road increases its speed uniformly from  $16$  m/s to  $32$  m/s in  $10.0$  s.
- What is the car's average acceleration?
  - What is the car's average velocity?
  - How far did the car move while accelerating?

Show all of your work for these calculations.



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Extended Response, *continued*

15. A ball is thrown vertically upward with a speed of  $25.0$  m/s from a height of  $2.0$  m.
- How long does it take the ball to reach its highest point?
  - How long is the ball in the air?

Show all of your work for these calculations.



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