

Name: \_\_\_\_\_

Key

Date: \_\_\_\_\_

### Study Guide for Test 2 on Freefall and Gravity

- There will be approximately ~~18~~ multiple choice questions on your test having to do with the effects of gravity on an object both rising and falling through the air. (time, acceleration, velocity, distance)
- There are approximately ~~18~~ word problems to be completed in column format.
- Short answer will include starred items from: (3)
  - a) the video question sheet on Galileo's Law of Falling Bodies
  - b) Finding Your Reaction Time Lab
  - c) Bleacher Lab

(1) What increases as an object falls to the Earth's surface, velocity or acceleration?

Velocity

(2) How does the distance change with every second that passes as the above object falls?

Increases

(3) By how much does the velocity change each second as the above object falls?

10 m/s

(4) In which way does the acceleration of gravity act always act on an object?

Down

(5) What is the velocity of a ball as it reaches it's apex?

0 m/s

(6) What is the acceleration due to gravity in meters?

10 m/s<sup>2</sup>

(7) What is the acceleration due to gravity in centimeters?

1000 cm/s<sup>2</sup>

(8) What is the acceleration due to gravity in feet?

32 ft/s<sup>2</sup>

(9) If an object is thrown upward at 25 m/s:

a) How fast will it be going when it is caught on the way back down?

25 m/s

b) At what distance will the ball reach it's apex?

31.3 m

c) How long will it take for the ball to be thrown up and caught when it returns?

5 sec