

Directions:

Use a Formula Sheet to help you so you don't need to memorize formulas. A new, clean one will be presented the day of the quiz. Label all units and show your work. BE NEAT!!

Some Formula's:

$$v = \frac{d}{t} \quad v = \frac{v_f + v_o}{2} \quad a = \frac{v_f - v_o}{t} \quad v_f = v_o + at$$
$$d = v_o t + \frac{1}{2} at^2 \quad v_f^2 = v_o^2 + 2 ad \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2 a}$$

1. Convert 35 mi/h to: 1 pt. each

a. Km/h (Ans: 56 km/h)

b. m/s (Ans: 15.64 m/s)

c. Ft/s (Ans: 51.33 ft/s)

2. An Automobile can be accelerated from 10 km/hr to 25 km/hr in 3.0 seconds. What is the acceleration in  $m/s^2$ ? (Ans:  $1.39 m/s^2$ ) 3 points.

3. What velocity is attained by an object that is accelerated at  $0.85 m/s^2$  for a distance of 150 m, if its initial velocity is 5 m/s? ( $16.73 m/s$ ) 4 points.



4. A ball is thrown from the ground to the top of a large tree. If it returns to the ground after 12.0 seconds, what is the height of the tree in meters? (176.4 m – Tall Tree!) 10 points.
5. A bag of mail is released from an ascending helicopter that is rising at 7 m/s. What time is required for the mail to reach the ground if released 175 meters above the surface. (Ans: 6.73 s) 10 points.

Bonus: Explain in the space below the question. 5 pts.

All of my grandchildren are under eighteen. All of my granddaughters are very beautiful. All of my grandchildren have red hair and blue eyes. My oldest grandchild has very long red hair. The legal voting age is 21. Which of the following statement(s) can be proved by the information given. More than one possible? (65%)

- a. My oldest grandchild may not yet vote
- b. My oldest grandchild is a beautiful girl.
- c. My youngest grandchild may not yet drive legally.
- d. My youngest grandchild has short red hair.

Answer: