## Work alone but you may use any of your own notes. There are two pages.

1. A car traveling at $25 \mathrm{~m} / \mathrm{s}$ accelerates at $3.5 \mathrm{~m} / \mathrm{s}$ for 22 seconds.
a. What distance was traveled in that time?
b. What was the final speed of the car?
2. The upward velocity of a football is $21 \mathrm{~m} / \mathrm{s}$.
a. Assuming no air resistance how long is the ball in the air?
b. How high does the ball go? (hint: the ball spends half of its air-time traveling upwards)
3. The muzzle speed of a bullet is $425 \mathrm{~m} / \mathrm{s}$. Assuming that the bullet is fired directly upwards and no air resistance:
a. At what time(s) is the bullet 1300 m above the ground?
b. What is the instantaneous speed when the bullet is 2575 m above the ground?
