

# Wk 17 Motion Equations

## 2 Picking Equations

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

- 1) Identify the variables.
- 2) Pick out the equation that would work.
- 3) Plug in the numbers, BUT DO NOT SOLVE.

$$d = v_i t + (0.5a)(t^2)$$

$$v_f = v_i + at$$

1. A car starting from rest, gets up to 32 m/s in 4 seconds.  
What was its acceleration?

d	t	$v_i$	$v_f$	a

2. What is the final velocity of a jogger that starts at 2 m/s and accelerates at 4 m/s<sup>2</sup> for 3 seconds?

d	t	$v_i$	$v_f$	a

3. A car, starting from rest, accelerates at 5 m/s<sup>2</sup> for 10 seconds. How far did it go?

d	t	$v_i$	$v_f$	a

4. A sprinter covers 14 m in 2 seconds, with an acceleration of 4 m/s<sup>2</sup>.  
What was her initial velocity?

d	t	$v_i$	$v_f$	a

5. How long would it take a rocket to go from 200 m/s to 600 m/s,  
if it accelerated at 4 m/s<sup>2</sup>?

d	t	$v_i$	$v_f$	a