Name: Date: Period:

Motion #4

$$v = \frac{d}{t} \qquad a = \frac{\Delta v}{t} \qquad \Delta v = v_f - v_i$$

Please use the proper problem-solving method. (1) Draw a picture; (2) knowns & unknowns; (3) pick an equation; (4) plug & chug; (5) answer with units.

1. What is the velocity of an ATV that travels 13 m in 2 s?

2. How long does it take for a car that is traveling 35 m/s to drive **23 km**?

3. How far can a person go if they run at a velocity of 8 m/s for **3 minutes**?

4. What is the acceleration of a unicycle that goes from 3 m/s to 5 m/s in 7 s?

$$v = \frac{d}{t} \qquad a = \frac{\Delta v}{t} \qquad \Delta v = v_f - v_i$$

5. What is the final velocity of a roller coaster that starts at rest and accelerates at a rate of $5\,\mathrm{m/s^2}$ for 0.8 s?

6. How much time would it take an object accelerating at $9\,\mathrm{m/s^2}$ to go from 25 m/s to 56 m/s?

7. After accelerating at a rate of $-5\,\mathrm{m/s^2}$ for 8 seconds, you are now traveling at 11.3 m/s. How fast were you going before you started accelerating?