

## **Acceleration Problems II**

### *Physical Science and Technology*

**Use your own piece of paper to complete these problems. Please show the Five Steps for every problem.**

1. A gigantic rat is running along the street with an initial velocity of 7.2 m/s. If it accelerates at a rate of  $4.2 \text{ m/s}^2$  for 11.5 s, what will its final velocity be?
2. A skinny turkey is plummeting from the top of Mary's Peak. When it lands, its final velocity is 752.1 m/s. If it fell for 31.5 seconds, and it accelerated at  $9.8 \text{ m/s}^2$ , what was its initial velocity?
3. A small stripey cat named Nacho is crawling along the top of Mr. Bregar's skull. When it first starts crawling, it is traveling at 0.05 m/s (initial velocity). It accelerates at  $0.01 \text{ m/s}^2$  until it is traveling at 0.12 m/s (final velocity). For how much time did it accelerate?
4. A big piece of chicken is thrown across the road. Before it is thrown, it is motionless (its velocity is 0 m/s). When it lands on the other side of the road, its velocity is 5.6 m/s. If it was in the air for 7.5 seconds, what was its acceleration?
5. A ferocious dog named Riley is chasing a pigeon down the street. If Riley starts running at 4.8 m/s and over a time of 11.5 seconds accelerates at  $1.14 \text{ m/s}^2$ , what will her final velocity be?