

# AP Physics – Vectors be Everwhere – 2

Blame \_\_\_\_\_

Per \_\_\_\_\_



*I don't want to get to the end of my life and find that I lived just the length of it. I want to have lived the width of it as well. -- Diane Ackerman*

1. A ball is thrown with an angle of  $12.0^\circ$  to the horizon with a speed of  $15.0\text{ m/s}$ . What are its horizontal and vertical components?
2. A frog falls from its rainforrest tree. If we ignore wind resistance, (a) how much time does it take the frog to fall a distance of  $12.0\text{ m}$ ? (b) how fast is the frog falling at this point?
3. A cannon shoots a large cannonball. The cannonball has a speed of  $125\text{ m/s}$  when it leaves the barrel. If the elevation angle was  $32.0^\circ$ , what is the horizontal distance that the cannonball travels?

