

Name _____

Show your work, circle your answers, and use significant digits to receive full credit (but don't round until the end) Ignore air friction, use the convention that down is negative, and use $g = 9.81 \text{ m/s}^2$.

When you have finished this, go to the website and check your answers. If you got a problem wrong, cross it off on the front, and do it correctly on the back.

1-3: A ball rolls off the edge of a 15.0 m tall cliff with a purely horizontal velocity, and strikes the ground at a distance of 12.4 m from the base of the cliff.

1. What time was the ball in the air?

2. What was the ball's horizontal velocity?

3. What is the speed of impact?

4-5: a) When the ball has covered a horizontal distance of 5.00 m:

4. What is the position of the ball? (How far out, how far down)

5. What is the velocity of the ball in vector components **and** as an angle and a magnitude?

Draw a picture of the velocity vector.