Tori hits a golf ball straight off a cliff perfectly horizontally (with a launch angle of $0^{\circ}$.) She gives it an initial horizontal velocity of $35 \mathrm{~m} / \mathrm{s}$.

1. If there were no gravity, draw where the ball would be for every second of travel. Use the scale $1 \mathrm{~cm}=10 \mathrm{~m}$.
2. When you're done, draw where the ball would be for every second of travel if it were not traveling horizontally. Use the same scale.
3. Now accurately plot where the ball that Tori hit will be as it travels with this initial velocity in a gravitational field.

A baseball-type person throws a ball perfectly horizontally off a cliff along the path indicated. At every point marked, draw the following vectors. Use a different color for each vector. Make your vectors longer or shorter relative to each other to indicate larger or smaller magnitudes. (Example, a line representing a high velocity will be longer than a line representing a low velocity.)

1. The vertical velocity
2. The vertical acceleration
3. The horizontal velocity
4. The horizontal acceleration.


Measure the angle with which the kiddo throws the javelin (relative to the horizontal.) The vertical component of the javelin's initial velocity is $35 \mathrm{~m} / \mathrm{s}$.

1. What's the javelin's actual (resultant) initial velocity?
2. If there were no gravity, draw where the javelin would be for every second of travel. Use the scale $1 \mathrm{~cm}=10 \mathrm{~m}$.
3. Now accurately plot where javelin will actually be each second as it free falls below the gravity-free path. (Refer to page 1 if you need help.)

Some weird office chick throws a giant pencil (?) at an angle along the path indicated. At every point marked, draw the following vectors. Use a different color for each vector. Make your vectors longer or shorter relative to each other to indicate larger or smaller magnitudes. (Example, a line representing a high velocity will be longer than a line representing a low velocity.)

1. The vertical velocity
2. The vertical acceleration
3. The horizontal velocity
4. The horizontal acceleration.

