

## Horizontal Projectile

## SHOW ALL WORK

name\_\_\_\_\_date\_\_\_\_\_SECTION\_\_

1. A cannon is shot horizontally off a cliff with an initial speed of 350 m/s. If the cliff is 125 m tall, how far away will the cannonball land?
2. A person runs off the high dive at a pool. If he lands 15 m from the base of the diving board and is in the air for .85 seconds, how high is the diving board?
3. Eric decides to try sky diving. To practice, he leaps off a bridge while running at 20 m/s. If the bridge is 1000m high, how far away from the base of the bridge will he land?
4. A rifle is 1.2 meters off the ground. If it has a muzzle velocity of 1750 m/s, how far down range will the bullet land?
5. How far from the bottom of a 45 meter tall cliff will an arrow strike the ground if it is shot horizontally with a speed of 150 m/s?

6. How fast must a cannonball be shot horizontally off the top of a 25 meter tall tower if its target is 300 meters away?
7. A bullet is shot horizontally off a cliff with a speed of 315 m/s. It strikes the ground 553 meters from the base of the cliff. How tall is the cliff?
8. How long will it take a rock to hit a target that is 150 meters from the base of a cliff if the cliff is 25 meters tall if the rock is thrown with a horizontal velocity of 67 m/s?
9. In the olympics, skiers jump from a ramp in an attempt to fly through the air. If a skier leaves the ramp at 35 m/s and he lands 95 meters away, how high was the ramp?
10. If a person drives off a 25 m tall cliff and lands 60 meters away, how fast was he going when he drove off the cliff?