

## 2-Dimensional - Projectile Motion

- ↓ (free fall)  $d = \frac{1}{2}at^2$  vertical motion with "rise & fall"
- ←→ horizontal  $d_2 = vt$  horizontal motion with constant velocity
- projectile motion - motion under the influence of gravity

1. A ball is thrown horizontally at 15 m/s from the top of a building 140 m tall. How far from the base of the building will the ball land?
2. Janet jumps off a high-diving platform with a horizontal velocity of 2.8 m/s and lands in the water 2.6 s later. How high ~~was~~ is the platform, and how far from the base of the platform does she land?
3. Divers in Acapulco dive from a cliff that ~~is about 20 m~~ is 61.0 m high. Down at water level, the rocks directly below the cliff extend outward for 23 m. What is the minimum horizontal velocity a diver must have to clear the rocks by 0.5 m?

$\text{ste} + b$

(unseen)

$\text{tv} = b$

$\text{v}$

elma to pustinosiron neant ci fied A  
flet moh pribliud o go got ant mort  
pribliud ant go sevel ant mort not wot  
?bndi fied ant Hic

moltolg pribliud o go egmej tenet b  
baw elm 8.6 go pribliud latnosiron o mien  
nplid wot . tenet e. go sevel ant ni abriof  
. 2.7 wot baw , moltolg ant ci ~~wot~~  
wob moltolg ant go sevel ant mort  
?bndi oda

tant 7710 o mort svib arugasa ni erenG e  
arugasa oib latnosiron ~~tenet~~  
ant , baw tenet to newG nplid m.0.1 d  
brown baw 7710 ant wot latnosiron mumin  
latnosiron munin ant ci mortG m.86 so  
ant wot oib swot taum ravid o pribliud  
?m 2.0 jd eror