

Write down the equations, diagrams and show your work so I can see your thinking and you can get full credit.



1. A student standing on a bridge throws a rock upwards at 10m/s . The rock travels up and then down and splashes into the water 4 seconds later.

How tall is the bridge?

2. A group of students is trying to get a marble to roll off a counter and land in a cup. The counter is 1.2m above the cup. They roll the marble off a ramp and it travels horizontally 1m in 0.8s . Where should they place the cup?

3. Two students are playing catch with a ball. The ball is thrown upwards at 12m/s and forwards at 18m/s .

a. How high in the air does the ball travel?

b. How far apart are the students?

4. A student is throwing water balloons at another student from a window 16m above the ground. The water balloon was thrown downward at 3m/s and horizontally at 12m/s. How far away horizontally does the water balloon travel?

5. A large trebuchet is flinging pumpkins at a barn 70m away. The pumpkin has an initial vertical velocity of 20m/s and a horizontal velocity of 20m/s. How high on the wall does the pumpkin hit?