Warm Up Question 1

Two students each throw a ball horizontally from the same height above a horizontal floor. A red ball is thrown at five times the speed as a blue ball. Describe as accurately as possible how the time taken for the red ball to hit the floor compares (e.g. more, less,...) to the time taken for the blue ball to hit the floor. Explain your answer.

1. Same. Vertical and horizontal motion are independent.
2. Longer for red. It will travel further.
3. Longer for blue. It travels slower.

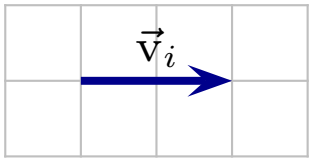
Warm Up Question 2

A projectile is fired from the ground at an angle of 60°. Is the velocity vector zero or not at the highest point of its trajectory? What is the direction of the velocity vector at the highest point? Explain your answers.

1. Zero. Briefly stops.
2. Not Zero. Horizontal. Horizontal component is constant.

Question 1

A ball is launched horizontally with the indicated initial velocity.



Which of the following best represents the velocity just before hitting the ground?