Vectors

Use the parallelogram rule to carefully construct the resultants for the eight pairs of vectors.

Carefully construct the vertical and horizontal components of the eight vectors.
Tossed Ball

A ball tossed upward has initial velocity components 30 m/s vertical, and 5 m/s horizontal. The position of the ball is shown at 1-second intervals. Air resistance is negligible, and \( g = 10 \text{ m/s}^2 \). Fill in the boxes, writing in the values of velocity components ascending, and your calculated resultant velocities descending.

Use the geometry theorem
\[ c^2 = a^2 + b^2 \]
to find the resultant velocities.

More specifically,
\[ v = \sqrt{v_x^2 + v_y^2} \]