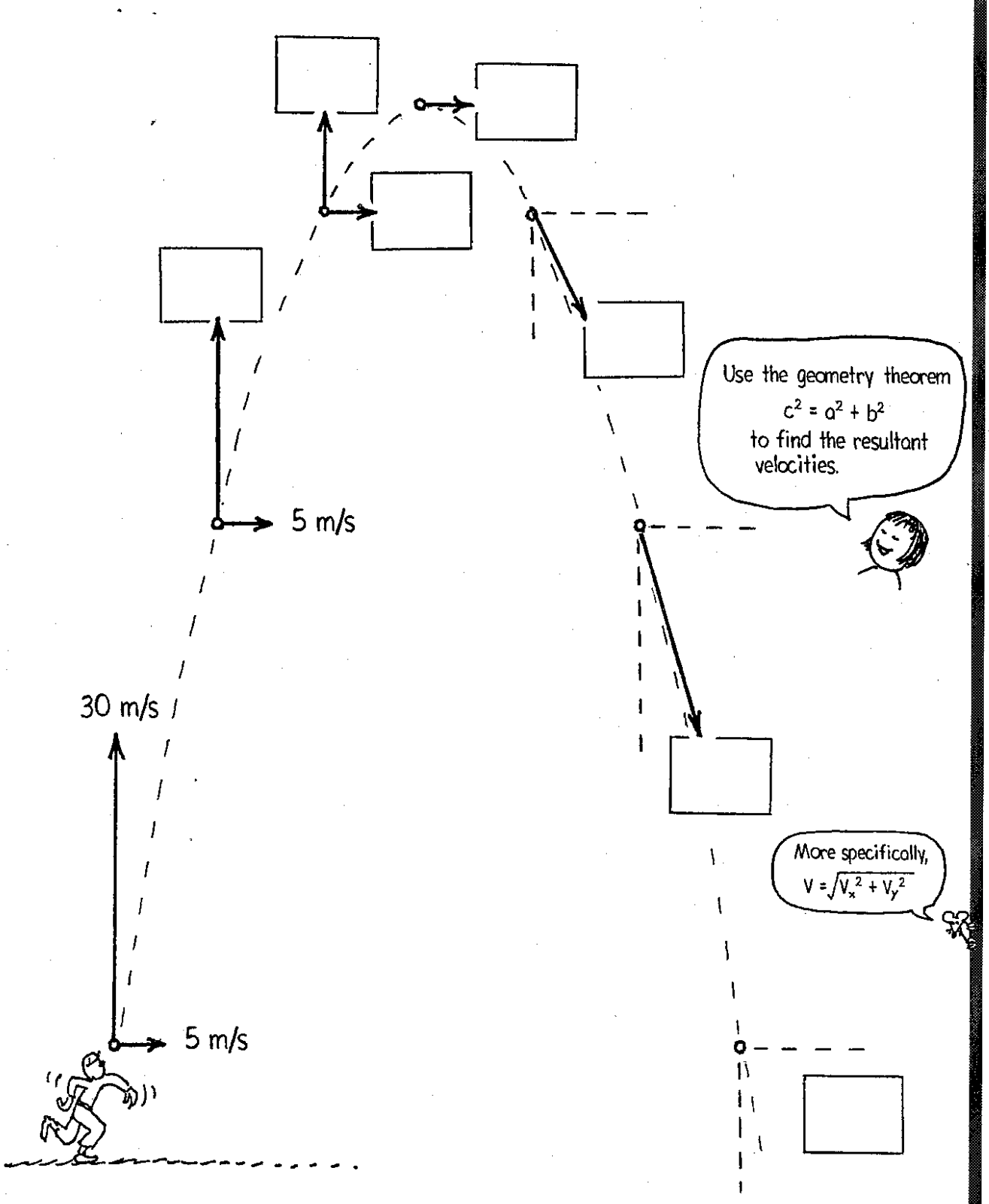
Tossed Ball

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 $g = 10\ m/s^2$. Fill in the boxes, writing in the values of velocity ***components*** ascending, and your calculated ***resultant velocities*** descending.



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Name Period Date

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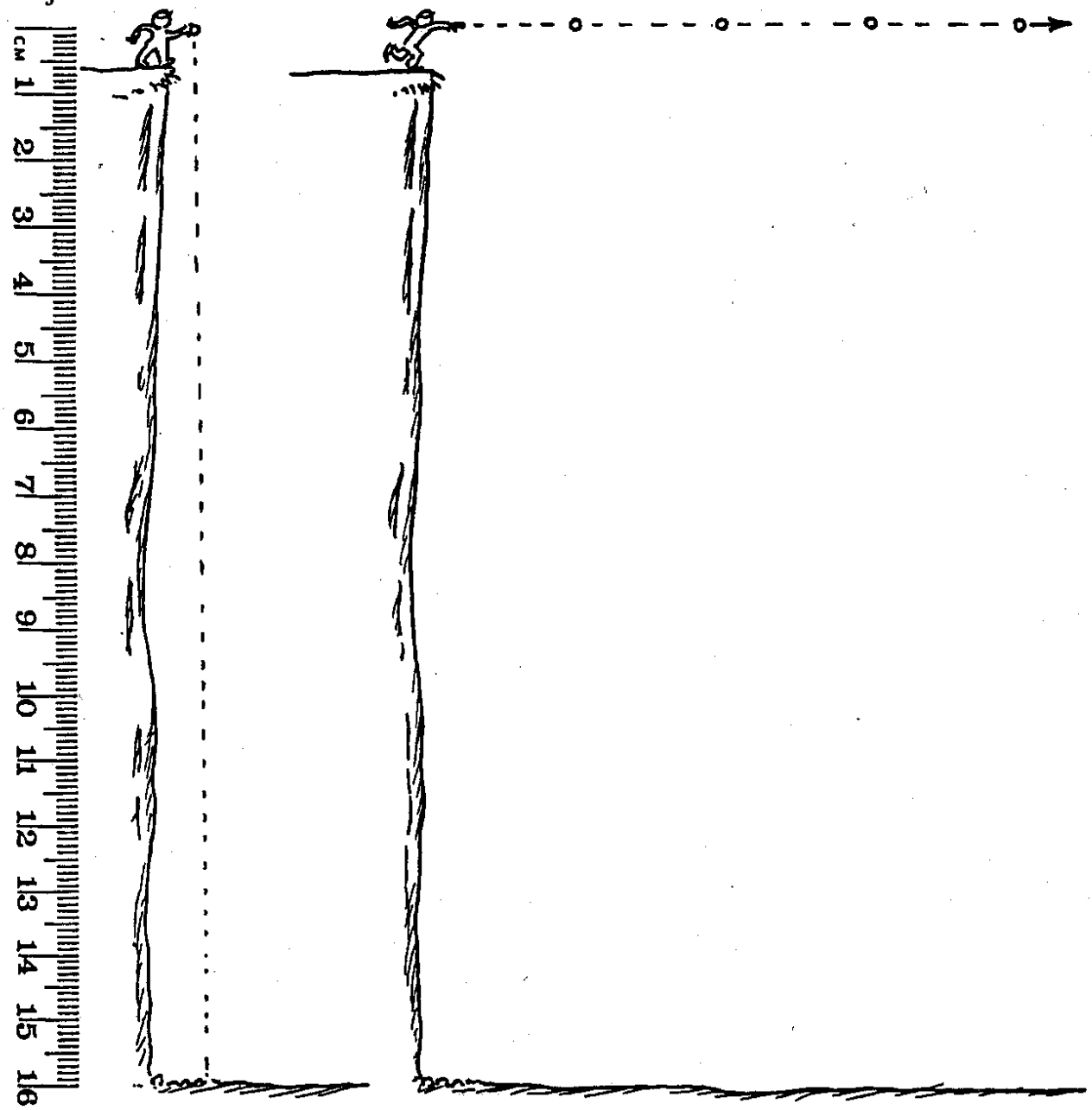
Projectile Motion



1. Above left: Use the scale 1 cm: 5 m and draw the positions of the dropped ball at 1-second intervals. Neglect air drag and assume $g = 10\ m/s^2$. Estimate the number of seconds the ball is in the air.

   _____ seconds.

2. Above right: The four positions of the thrown ball with *no gravity* are at 1-second intervals. At 1 cm: 5 m, carefully draw the positions of the ball *with* gravity. Neglect air drag and assume $g = 10\ m/s^2$. Connect your positions with a smooth curve to show the path of the ball. How is the motion in the vertical direction affected by motion in the horizontal direction?

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