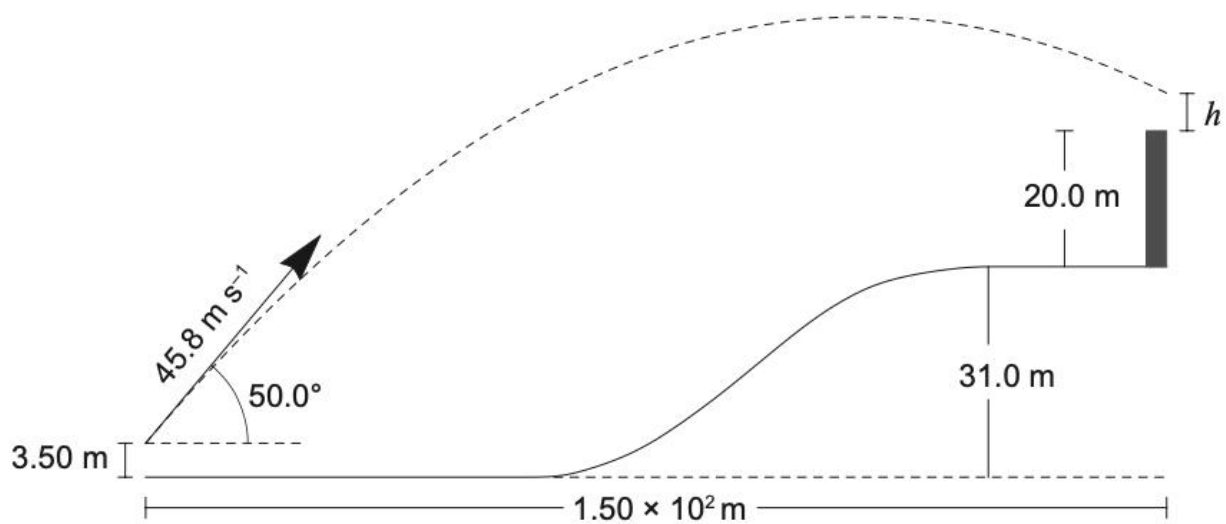


Question 5

(6 marks)



A catapult is  $1.50 \times 10^2 \text{ m}$  away from a  $20.0 \text{ m}$  high castle wall on top of a  $31.0 \text{ m}$  hill. It launches a metal ball at  $50.0^\circ$  to the horizontal  $3.50 \text{ m}$  above the ground at  $45.8 \text{ m s}^{-1}$ . Calculate how far above the castle wall the ball passes ( $h$ ).

Answer: \_\_\_\_\_ m