A military helicopter on a training mission is flying horizontally at a speed of 60.0 m/s and accidentally drops a bomb (fortunately not armed) at an elevation of 300 m. You can ignore air resistance.

(a) How much time is required for the bomb to reach the earth?

(b) How far does it travel horizontally while falling?

(c) Find the horizontal component of its velocity just before it strikes the earth.

(d) Find the vertical component of its velocity just before it strikes the earth.

Answer

a) 7.82 s
b) 469.2 m
c) $v_y = 76.64 \mathrm{m/s}$
d) see graph
e) 300 m