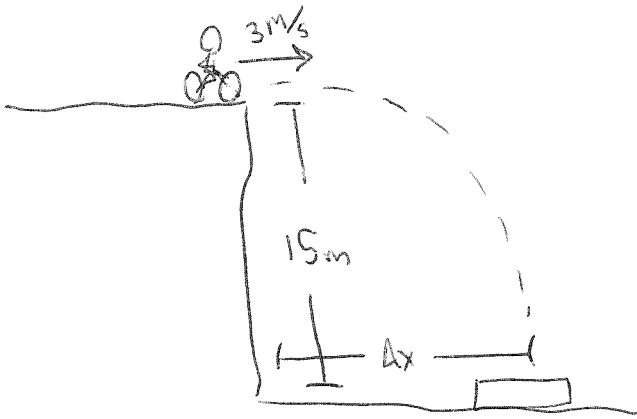
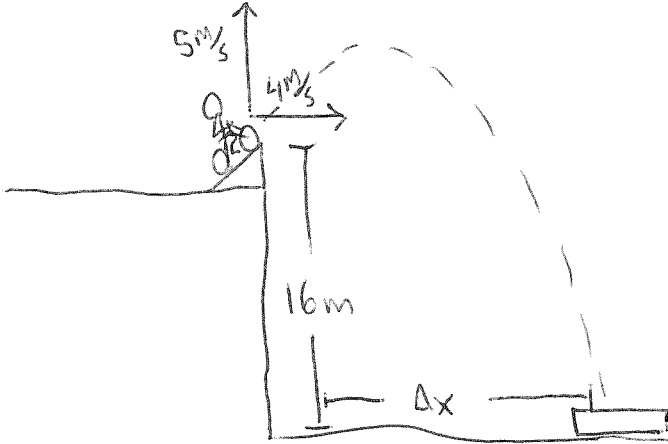


①



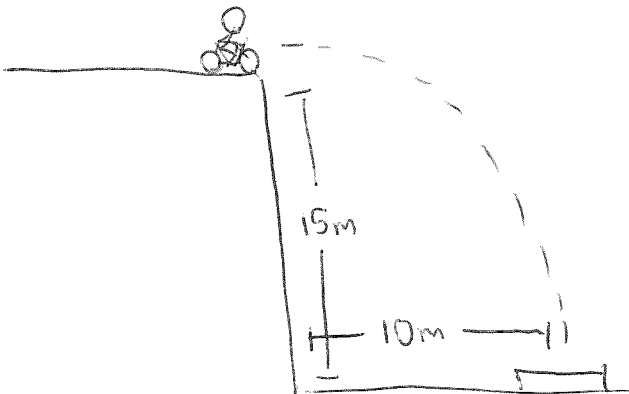
X	Y
$v_i = 3 \text{ m/s}$	$\Delta y = 15 \text{ m}$
$\Delta x = ?$	$a = -9.8 \text{ m/s}^2$
$a = 0 \text{ m/s}^2$	$v_i = 0 \text{ m/s}$
$\Delta t = 1.75 \text{ s}$	$\Delta t = ?$
$\Delta x = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$	$\Delta y = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$
$\Delta x = 5.25 \text{ m}$	$\Delta t = 1.75 \text{ s}$

②



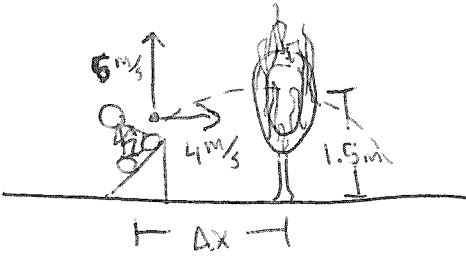
X	Y
$a = 0 \text{ m/s}^2$	$a = -9.8 \text{ m/s}^2$
$v_i = 4 \text{ m/s}$	$v_i = 5 \text{ m/s}$
$\Delta t = 2.4 \text{ s}$	$\Delta y = -16 \text{ m}$
$\Delta x = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$	$v_f = ?$
$\Delta x = 9.6 \text{ m}$	$v_f^2 = v_i^2 + 2a \Delta y$
	$v_f^2 = 5^2 + 2(-9.8)(-16)$
	$v_f = -18.4 \text{ m/s}$
	Make it negative
	$v_f = v_i + a \Delta t$
	$-18.4 = 5 - 9.8(\Delta t)$
	$2.4 \text{ s} = \Delta t$

③



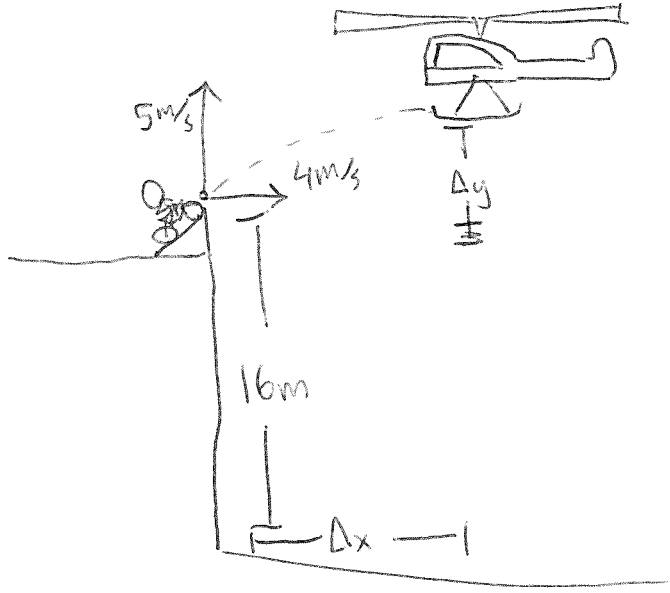
X	Y
$v_i = ?$	$a = -9.8 \text{ m/s}^2$
$a = 0 \text{ m/s}^2$	$v_i = 0 \text{ m/s}$
$\Delta x = 10 \text{ m}$	$\Delta y = -15 \text{ m}$
$\Delta t = 1.75 \text{ s}$	$\Delta t = ?$
$\Delta x = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$	$\Delta y = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$
$v_i = 5.7 \text{ m/s}$	$\Delta t = 1.75 \text{ s}$

4



X	Y
$V_i = 4 \text{ m/s}$	$a = -9.8 \text{ m/s}^2$
$a = 0 \text{ m/s}^2$	$V_i = 5 \text{ m/s}$
Up - $\Delta x = 1.2 \text{ m}$	$\Delta y = 1.5 \text{ m}$
Down - $\Delta x = 3.5 \text{ m}$	$V_f = ?$
	$V_f^2 = V_i^2 + 2a\Delta y$
	$V_f = 2.6$ or $V_f = -2.6$
	Way Up $V_f = V_i + a\Delta t$ Way Down
	$\Delta t = 0.3 \text{ s}$ or $\Delta t = 0.88 \text{ s}$

5



X	Y
$V_i = 4 \text{ m/s}$	$V_i = 5 \text{ m/s}$
$a = 0 \text{ m/s}^2$	$a = -9.8 \text{ m/s}^2$
$\Delta x = ?$	$V_f = 0 \text{ m/s}$ ← Max Height
$\Delta t = 0.51 \text{ s}$	$V_f = V_i + a\Delta t$
$\Delta x = V_i\Delta t + \frac{1}{2}a(\Delta t)^2$	$\Delta t = 0.51 \text{ s}$
$\Delta x = 2.04 \text{ m}$	$\Delta y = V_i\Delta t + \frac{1}{2}a(\Delta t)^2$
	$\Delta y = 1.28 \text{ m}$
	So
	$1.28 + 16 = 17.28 \text{ m}$
	Above the cliff bottom