

Rock Givens		
$y_{R0} =$	108	(m)
$v_{R0} =$	78	(m/s)
$a_R =$	-9.8	(m/s ²)

Balloon Givens		
$y_{B0} =$	253	(m)
$v_{B0} =$	-43	(m/s)
$a_B =$	4.3	(m/s ²)

$\Delta t =$	0.75	(s)
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N	t (s)	y_R (m)	v_R (m/s)	y_B (m)	v_B (m/s)	$(y_R - y_B)$ (m)
0	0.0	108.0	78.0	253.0	-43.0	-145.0
1	0.8	163.7	70.7	222.0	-39.8	-58.2
2	1.5	214.0	63.3	193.3	-36.6	20.6
3	2.3	258.7	56.0	167.1	-33.3	91.6
4	3.0	297.9	48.6	143.4	-30.1	154.6
5	3.8	331.6	41.3	122.0	-26.9	209.6
6	4.5	359.8	33.9	103.0	-23.7	256.7
7	5.3	382.4	26.6	86.5	-20.4	295.9
8	6.0	399.6	19.2	72.4	-17.2	327.2
9	6.8	411.2	11.9	60.7	-14.0	350.5
10	7.5	417.4	4.5	51.4	-10.8	365.9
11	8.3	418.0	-2.9	44.6	-7.5	373.4
12	9.0	413.1	-10.2	40.2	-4.3	373.0
13	9.8	402.7	-17.6	38.1	-1.1	364.6
14	10.5	386.8	-24.9	38.5	2.2	348.2
15	11.3	365.3	-32.3	41.4	5.4	324.0
16	12.0	338.4	-39.6	46.6	8.6	291.8
17	12.8	305.9	-47.0	54.3	11.8	251.7
18	13.5	268.0	-54.3	64.3	15.1	203.6
19	14.3	224.5	-61.7	76.8	18.3	147.7
20	15.0	175.5	-69.0	91.8	21.5	83.8
21	15.8	121.0	-76.4	109.1	24.7	11.9
22	16.5	61.0	-83.7	128.8	28.0	-67.9
23	17.3	-4.6	-91.1	151.0	31.2	-155.6
24	18.0	-75.6	-98.4	175.6	34.4	-251.2
25	18.8	-152.2	-105.8	202.6	37.6	-354.8

Harsh Patel **October 8, 2019** **Section J**
Modified Rock and Balloon Model

