

Video File Name Sprint Start

Reference Model Title sprint start -3pt

Video Calibration Units are:- Distance (metres) Velocity (metres/second) Acceleration (metres/second/second)

Video Calibration Coordinates						
	X1	X2	Y1	Y2	Distance	Frames/s
Horizontal	414.62	413.08	263.85	387.69	1.10	25.00
Vertical	414.62	413.08	263.85	387.69	1.10	25.00

1 FRONT FOOT

Frame Number	Time (sec)	X Coordinate	Y Coordinate	dx	dy	Distance	Velocity	Acceleration	Force
34	-0.44	590.00	446.25	0.00	0.00	0.00	0.32	0.15	1.19
35	-0.40	591.25	446.88	1.25	0.63	0.01	0.32	-0.17	-1.37
36	-0.36	591.25	448.13	0.00	1.25	0.03	0.31	-0.49	-3.98
37	-0.32	591.25	446.25	0.00	-1.88	0.04	0.28	-0.64	-5.29
38	-0.28	590.63	446.25	-0.63	0.00	0.05	0.24	-0.52	-4.29
39	-0.24	591.25	445.63	0.63	-0.63	0.06	0.23	-0.33	-2.69
40	-0.20	591.88	446.25	0.63	0.63	0.07	0.23	-0.34	-2.75
41	-0.16	590.63	446.25	-1.25	0.00	0.08	0.21	-0.52	-4.27
42	-0.12	591.25	446.88	0.63	0.63	0.08	0.18	-0.62	-5.10
43	-0.08	590.63	446.88	-0.63	0.00	0.09	0.15	-0.54	-4.40
44	-0.04	590.63	446.88	0.00	0.00	0.10	0.14	-0.42	-3.44
45	0.00	591.25	446.25	0.63	-0.63	0.10	0.13	-0.34	-2.76
46	0.04	591.25	446.88	0.00	0.63	0.11	0.11	-0.09	-0.74
47	0.08	591.25	446.88	0.00	0.00	0.11	0.11	0.47	3.82
48	0.12	591.25	446.88	0.00	0.00	0.11	0.14	1.16	9.52
49	0.16	591.25	447.50	0.00	0.63	0.12	0.21	2.56	20.98
50	0.20	592.50	446.88	1.25	-0.63	0.13	0.29	7.29	59.79
51	0.24	593.75	446.88	1.25	0.00	0.14	0.57	19.05	156.17
52	0.28	595.00	446.25	1.25	-0.63	0.16	1.52	38.56	316.23
53	0.32	595.63	445.63	0.63	-0.63	0.23	3.54	60.30	494.49
54	0.36	581.88	432.50	-13.75	-13.13	0.41	7.43	74.13	607.84
55	0.40	545.63	418.75	-36.25	-13.75	0.74	9.99	71.72	588.14
56	0.44	491.88	411.88	-53.75	-6.88	1.22	12.86	53.45	438.31
57	0.48	424.38	426.88	-67.50	15.00	1.81	14.47	28.45	233.30
58	0.52	349.38	432.50	-75.00	5.63	2.42	14.93	8.35	68.49
59	0.56	287.50	428.75	-61.88	-3.75	3.01	14.75	-4.35	-35.65

2 BACK FOOT

Frame Number	Time (sec)	X Coordinate	Y Coordinate	dx	dy	Distance	Velocity	Acceleration	Force
34	-0.44	633.75	448.13	0.00	0.00	0.00	0.19	0.16	1.33
35	-0.40	634.38	448.75	0.63	0.63	0.01	0.19	0.28	2.32
36	-0.36	633.75	448.75	-0.63	0.00	0.02	0.21	0.28	2.27
37	-0.32	633.13	448.13	-0.63	-0.63	0.02	0.23	0.04	0.32
38	-0.28	633.13	449.38	0.00	1.25	0.03	0.22	-0.38	-3.11
39	-0.24	633.13	448.13	0.00	-1.25	0.04	0.19	-0.67	-5.53
40	-0.20	633.13	448.13	0.00	0.00	0.05	0.15	-0.63	-5.14
41	-0.16	633.75	448.13	0.63	0.00	0.05	0.13	-0.30	-2.48
42	-0.12	633.13	448.13	-0.63	0.00	0.06	0.13	0.02	0.16
43	-0.08	633.13	448.13	0.00	0.00	0.07	0.14	0.19	1.57
44	-0.04	633.75	447.50	0.63	-0.63	0.07	0.15	0.32	2.64
45	0.00	633.13	447.50	-0.63	0.00	0.08	0.16	1.05	8.57
46	0.04	633.13	448.13	0.00	0.63	0.08	0.19	4.71	38.65
47	0.08	633.13	448.13	0.00	0.00	0.09	0.35	15.47	126.87
48	0.12	635.00	448.13	1.88	0.00	0.10	1.09	35.14	288.16
49	0.16	635.00	448.13	0.00	0.00	0.14	2.98	56.33	461.88
50	0.20	629.38	440.00	-5.63	-8.13	0.29	6.00	62.82	515.12
51	0.24	591.88	430.00	-37.50	-10.00	0.61	6.27	42.43	347.92
52	0.28	533.13	434.38	-58.75	4.38	1.07	10.18	0.99	8.11
53	0.32	477.50	436.88	-55.63	2.50	1.52	8.98	-39.50	-323.92
54	0.36	441.88	438.13	-35.63	1.25	1.84	6.22	-58.76	-481.86
55	0.40	429.38	448.75	-12.50	10.63	2.00	3.44	-53.26	-436.71
56	0.44	431.25	446.88	1.88	-1.88	2.08	1.62	-34.60	-283.73
57	0.48	434.38	448.13	3.13	1.25	2.10	0.80	-16.64	-136.42
58	0.52	433.75	446.88	-0.63	-1.25	2.13	0.56	-6.05	-49.61
59	0.56	436.25	447.50	2.50	0.63	2.15	0.51	-1.25	-10.28

Athlete's mass

82.00

	Front foot	Rear foot
Initial velocity	0.11	0.19
Final velocity	7.43	6.27
Initial momentum	9.02	15.58
Final momentum	609.26	514.14
Change in momentum	600.24	498.56
Total Force	1668.10	1778.60
Impulse Time	0.36	0.28
Impulse (Ns)	600.52	498.01

