

Culminating Assessment Task – Lines & Linear Modeling

The following table outlines how you can accumulate points towards your culminating assessment task from our first unit on Lines and Linear Systems

Final date for this work to be submitted is **Thursday, October 1 (BLOCK B)**

Final date for this work to be submitted is **Friday, October 2 (BLOCK F)**

Layer	Task	Task Notes	Points	Points Earned
Task Question	You will use linear relations to model the winnings times of both the men's and women's 100m sprint finals from previous Olympic games. You will determine the linear equation that best models your data. Then both linear relations will be drawn on a graph in order to find and interpret the intersection point			
Task Requirements	Written Solution	Write the solution to the task question using BOTH algebraic methods (elimination & substitution) as well as showing a graphical solution. Make sure your partner(s) have read your work and understand your explanation	Up to 10 points	
	Model Building	You will build a Cartesian grid (complete with axis and scale) on a rigid background that can be used to demonstrate (i) ordered pairs, (ii) slope, (iii) showing lines & writing linear equations (iv) and solving linear systems	Up to 10 points	
	Make a Movie	You will explain part of your solution to the task question while your partner "films" you and then your partner will then finish the solution to the question. Use the white board and your model in your solution presentation.	Up to 15 points	
	Perform a Skit/Song	Write a song/poem/skit that involves the solution to the word problem. Perform to the class or video to me	Up to 5 points	

Olympic Winning Times for Men's & Women's 100m sprint – Selected data – Group 1

Year		Men's Winning Time	Women's Winning Time
1896	1	12.0	
1900	2	11.0	
1904	3	11.0	
1908	4		
1912	5	10.8	
1920	7		
1924	8		
1928	9	10.8	12.2
1932	10		11.9
1936	11	10.3	11.5
1948	14		11.9
1952	15	10.4	
1956	16		11.5
1960	17	10.2	11.0
1964	18		
1968	19	9.9	11.0
1972	20		11.07
1976	21	10.06	
1980	22		11.06
1984	23	9.99	
1988	24	9.92	10.54
1992	25		10.82
1996	26	9.84	
2000	27	9.87	10.75
2004	28	9.85	10.93
2008	29		10.78

Olympic Winning Times for Men's & Women's 100m sprint – Selected data – Group 2

Year		Men's Winning Time	Women's Winning Time
1896	1	12.0	
1900	2		
1904	3	11.0	
1908	4		
1912	5	10.8	
1920	7		
1924	8	10.6	
1928	9		12.2
1932	10	10.34	11.9
1936	11		
1948	14	10.34	11.9
1952	15		11.5
1956	16	10.5	
1960	17		11.0
1964	18	10.0	11.4
1968	19	9.9	
1972	20		11.07
1976	21	10.06	11.08
1980	22	10.25	
1984	23		10.97
1988	24	9.92	10.54
1992	25	9.96	
1996	26		10.94
2000	27	9.87	10.75
2004	28	9.85	
2008	29		10.78

Olympic Winning Times for Men's & Women's 100m sprint – Selected data – Group 3

Year		Men's Winning Time	Women's Winning Time
1896	1		
1900	2	11.0	
1904	3		
1908	4	10.8	
1912	5	10.8	
1920	7		
1924	8	10.6	
1928	9	10.8	12.2
1932	10		
1936	11	10.3	11.5
1948	14	10.34	11.9
1952	15		
1956	16	10.5	11.5
1960	17	10.2	11.0
1964	18		
1968	19	9.9	11.0
1972	20	10.14	11.07
1976	21		
1980	22	10.25	11.06
1984	23	9.99	10.97
1988	24		10.54
1992	25	9.96	
1996	26	9.84	10.94
2000	27		10.75
2004	28	9.85	
2008	29	9.69	10.78

Olympic Winning Times for Men's & Women's 100m sprint – Selected data – Group 4

Year		Men's Winning Time	Women's Winning Time
1896	1		
1900	2		
1904	3	11.0	
1908	4	10.8	
1912	5		
1920	7	10.8	
1924	8	10.6	
1928	9	10.8	12.2
1932	10		11.9
1936	11	10.3	
1948	14		11.9
1952	15	10.4	11.5
1956	16		11.5
1960	17	10.2	11.0
1964	18	10.0	
1968	19	9.9	11.0
1972	20	10.14	11.07
1976	21		
1980	22	10.25	11.06
1984	23	9.99	
1988	24		10.54
1992	25	9.96	10.82
1996	26	9.84	10.94
2000	27	9.87	10.75
2004	28	9.85	
2008	29		10.78

Olympic Winning Times for Men's & Women's 100m sprint – Complete data

Year		Men's Winning Time	Women's Winning Time
1896	1	12.0	
1900	2	11.0	
1904	3	11.0	
1908	4	10.8	
1912	5	10.8	
1920	7	10.8	
1924	8	10.6	
1928	9	10.8	12.2
1932	10	10.34	11.9
1936	11	10.3	11.5
1948	14	10.34	11.9
1952	15	10.4	11.5
1956	16	10.5	11.5
1960	17	10.2	11.0
1964	18	10.0	11.4
1968	19	9.9	11.0
1972	20	10.14	11.07
1976	21	10.06	11.08
1980	22	10.25	11.06
1984	23	9.99	10.97
1988	24	9.92	10.54
1992	25	9.96	10.82
1996	26	9.84	10.94
2000	27	9.87	10.75
2004	28	9.85	10.93
2008	29	9.69	10.78