

A	B	C	D	E
Planet	Scaled Orbit Radius (meters)	paces	my measurement (meters)	error
Mercury	14.48	26	14.56	0.006
Venus	27.05	48	26.88	0.006
Earth	37.40	67	37.52	0.003
Mars	56.98	101	56.56	0.007
Jupiter	194.58	335	187.60	0.036
Saturn	357.35	614	343.84	0.038
Uranus	718.75	1222	684.32	0.048
Neptune	1126.10	1920	1075.20	0.045
Pluto	1478.95	2510	1405.60	0.050

The first method I chose for measuring distances is the "pacing" method. Column A contains the name of each planet in our solar system. Column B is the actual distance between the Sun marker and each planet marker according to the Solar Walk website. Column C shows my pacing of the distance to each marker (i.e. counting my steps as I walked along the Solar Walk and making a note of my step count as I passed each marker). I then measured one of my steps and found one pace = 56 centimeters (0.56 meters). Column D is the pace count converted to meters (# of paces x 0.56 meters/pace). If I walked with consistent paces, these numbers would be exactly the same as in column B for each planet. Column E is the error in my measurement compared to the true distance (absolute value of (B-D)/B). This reveals that my measurement error was typically less than 1% at the start but increased to about 5% later in the walk.

continue here by giving a few reasons to explain your errors

A	B	C	D	E
Planet	Scaled Orbit Radius (meters)	seconds	my measurement (meters)	error
Mercury	14.48	3	29.40	1.030
Venus	27.05	5	49.00	0.811
Earth	37.40	7	68.60	0.834
Mars	56.98	9	88.20	0.548
Jupiter	194.58	25	245.00	0.259
Saturn	357.35	40	392.00	0.097
Uranus	718.75	79	774.20	0.077
Neptune	1126.10	122	1195.60	0.062
Pluto	1478.95	148	1450.40	0.019

The second method I used to measure the distances is the "timing" method. I drove along 8th Avenue with a friend at about 22 miles/hour (based on my car's speedometer reading). This translates to 9.8 meters/sec. As we passed each planet marker, my friend recorded the number of seconds that had passed (beginning with the Sun at t=0 seconds). Column C is the time in seconds as we passed each planet. Column D is the distance to each marker obtained by multiplying the seconds by the speed (9.8meters/second). Column E is the error (as in the first example). ** continue by discussing the errors**