

Units A-E

Acceleration Conversion Test			Density Conversion Test		
<b>From:</b>	meters/sec/sec	1	<b>From:</b>	pounds/gallon	
<b>To</b>			<b>To</b>		
1	meters/sec/sec	#NAME?	#NAME?	1	pounds/gallon
2	centimeters/sec/sec	#NAME?	#NAME?	2	pounds/cubic foot
3	inches/sec/sec	#NAME?	#NAME?	3	pounds/cubic inch
4	feet/sec/sec	#NAME?	#NAME?	4	ounces/cubic inch
5	kilometers/hour/sec	#NAME?	#NAME?	5	short tons/cubic yard
6	miles/hour/sec	#NAME?	#NAME?	6	grains/cubic inch
				7	grams/liter
				8	kilograms/cubic meter
Area Conversion Test				9	grains/gallon
<b>From:</b>	square meters	1		10	grams/cubic centimeter
<b>To</b>				11	grams/milliliter
1	square meters	#NAME?	#NAME?	12	kilograms/liter
2	acres	#NAME?	#NAME?		
3	ares	#NAME?	#NAME?		
4	circular mils	#NAME?	#NAME?	Energy Conversion Test	
5	hectares	#NAME?	#NAME?	<b>From:</b>	joules
6	square centimeters	#NAME?	#NAME?	<b>To</b>	
7	square chains	#NAME?	#NAME?	1	joules
8	square feet	#NAME?	#NAME?	2	Ergs
9	square inches	#NAME?	#NAME?	3	BTU
10	square miles	#NAME?	#NAME?	4	BTU(@39degF)
11	square perches	#NAME?	#NAME?	5	BTU(@60degF)
12	square poles	#NAME?	#NAME?	6	BTU(mean)
13	square rods	#NAME?	#NAME?	7	BTU(thermochemical)
14	square yards	#NAME?	#NAME?	8	calories
				9	calories(@15degC)
				10	calories(@20degC)
				11	calories(mean)
				12	calories(thermochemical)
				13	centigrade heat units
				14	electronvolts
				15	foot-pounds(force)
				16	horsepower-hours
				17	horsepower-hours(metric)
				18	kilocalories
				19	kilocalories(mean)
				20	kilocalories(thermochemical)
				21	kilowatt-hours
				22	liter-atmospheres
				23	megajoules
				24	quads

Units A-E

				25	therms(EEC)
				26	therms(US)
				27	watt-seconds
				28	watt-hour
				29	kilogram-meters



Units A-E

#NAME?	#NAME?

Units E-M

<b>Enthalpy Conversion Test</b>				<b>Mass C</b>
<b>From:</b>	BTU/pound	1		<b>From:</b>
<b>To</b>				<b>To</b>
1	kilojoules/kilogram	#NAME?	#NAME?	1
2	BTU/pound	#NAME?	#NAME?	2
3	calories/gram	#NAME?	#NAME?	3
4	kilocalories/kilogram	#NAME?	#NAME?	4
				5
				6
				7
<b>Entropy Conversion Test</b>				8
<b>From:</b>	BTU/pound-degF	1		9
<b>To</b>				10
1	kilojoules/kilogram-K	#NAME?	#NAME?	11
2	BTU/pound-degF	#NAME?	#NAME?	12
3	calories/gram-degC	#NAME?	#NAME?	13
4	kilocalories/kilogram-degC	#NAME?	#NAME?	14
5	joules/gram-K	#NAME?	#NAME?	15
				16
<b>Length Conversion Test</b>				17
<b>From:</b>	meters	1		18
<b>To</b>				19
1	meters	#NAME?	#NAME?	20
2	angstroms	#NAME?	#NAME?	
3	centimeters	#NAME?	#NAME?	<b>Mass F</b>
4	millimeters	#NAME?	#NAME?	<b>From:</b>
5	chains(engineer's)	#NAME?	#NAME?	<b>To</b>
6	chains	#NAME?	#NAME?	1
7	fathoms	#NAME?	#NAME?	2
8	feet	#NAME?	#NAME?	3
9	furlongs	#NAME?	#NAME?	4
10	inches	#NAME?	#NAME?	5
11	links(engineer's)	#NAME?	#NAME?	6
12	links	#NAME?	#NAME?	7
13	miles	#NAME?	#NAME?	8
14	nautical miles	#NAME?	#NAME?	9
15	mils	#NAME?	#NAME?	10
16	rods	#NAME?	#NAME?	11
17	yards	#NAME?	#NAME?	12
				13
				14
				15
				16

Units E-M

				17
				18
				19
				20
				21
				22
				23

<b>Conversion Test</b>		
kilograms	1	
kilograms	#NAME?	#NAME?
grams	#NAME?	#NAME?
carats	#NAME?	#NAME?
milligrams	#NAME?	#NAME?
metric tons	#NAME?	#NAME?
drams	#NAME?	#NAME?
ounces	#NAME?	#NAME?
pounds	#NAME?	#NAME?
short tons	#NAME?	#NAME?
long tons	#NAME?	#NAME?
grains	#NAME?	#NAME?
long hundredweights	#NAME?	#NAME?
short hundredweights	#NAME?	#NAME?
pennyweights	#NAME?	#NAME?
troy ounces	#NAME?	#NAME?
troy pounds	#NAME?	#NAME?
apothecary drams	#NAME?	#NAME?
apothecary ounces	#NAME?	#NAME?
apothecary pounds	#NAME?	#NAME?
apothecary scruples	#NAME?	#NAME?
<b>Flow Conversion Test</b>		
kilograms/sec	1	
kilograms/sec	#NAME?	#NAME?
kilograms/min	#NAME?	#NAME?
kilograms/hour	#NAME?	#NAME?
kilograms/day	#NAME?	#NAME?
grams/sec	#NAME?	#NAME?
grams/min	#NAME?	#NAME?
grams/hour	#NAME?	#NAME?
metric tons/sec	#NAME?	#NAME?
metric tons/min	#NAME?	#NAME?
metric tons/hour	#NAME?	#NAME?
metric tons/day	#NAME?	#NAME?
pounds/sec	#NAME?	#NAME?
pounds/min	#NAME?	#NAME?
pounds/hour	#NAME?	#NAME?
pounds/day	#NAME?	#NAME?
short tons/sec	#NAME?	#NAME?

Units E-M

short tons/min	#NAME?	#NAME?
short tons/hour	#NAME?	#NAME?
short tons/day	#NAME?	#NAME?
long tons/sec	#NAME?	#NAME?
long tons/min	#NAME?	#NAME?
long tons/hour	#NAME?	#NAME?
long tons/day	#NAME?	#NAME?

Units P-T

<b>Power Conversion Test</b>				<b>Tempe</b>
<b>From:</b>	kilowatts	1		<b>From:</b>
<b>To</b>				<b>To</b>
1	kilowatts	#NAME?	#NAME?	1
2	BTU/min	#NAME?	#NAME?	2
3	BTU/hour	#NAME?	#NAME?	3
4	foot-pounds/min	#NAME?	#NAME?	4
5	foot-pounds/sec	#NAME?	#NAME?	
6	horsepower	#NAME?	#NAME?	<b>Therma</b>
7	metric horsepower	#NAME?	#NAME?	<b>From:</b>
8	boiler horsepower	#NAME?	#NAME?	<b>To</b>
9	kilocalories/min	#NAME?	#NAME?	1
10	kilocalories/sec	#NAME?	#NAME?	2
11	meter-kilograms(f)/sec	#NAME?	#NAME?	3
				4
<b>Pressure Conversion Test</b>				5
<b>From:</b>	pounds/square inch	1		6
<b>To</b>				
1	pounds/square inch	#NAME?	#NAME?	
2	pounds/square foot	#NAME?	#NAME?	
3	atmospheres	#NAME?	#NAME?	
4	millibars	#NAME?	#NAME?	
5	bars	#NAME?	#NAME?	
6	inches of water	#NAME?	#NAME?	
7	feet of water	#NAME?	#NAME?	
8	inches of mercury	#NAME?	#NAME?	
9	kips/square inch	#NAME?	#NAME?	
10	dynes/square cm	#NAME?	#NAME?	
11	grams(f)/square cm	#NAME?	#NAME?	
12	kilograms(f)/square cm	#NAME?	#NAME?	
13	kilograms(f)/square meter	#NAME?	#NAME?	
14	kiloPascals	#NAME?	#NAME?	
15	Pascals	#NAME?	#NAME?	
16	torrs	#NAME?	#NAME?	
17	millimeters of mercury	#NAME?	#NAME?	
18	centimeters of mercury	#NAME?	#NAME?	
19	millimeters of water	#NAME?	#NAME?	
20	centimeters of water	#NAME?	#NAME?	
21	megaPascals	#NAME?	#NAME?	



Units V

<b>Velocity Conversion Test</b>				<b>Volume</b>
<b>From:</b>	miles/hour		1	<b>From:</b>
<b>To</b>				<b>To</b>
1	miles/hour	#NAME?	#NAME?	1
2	knots	#NAME?	#NAME?	2
3	miles/min	#NAME?	#NAME?	3
4	feet/hour	#NAME?	#NAME?	4
5	feet/min	#NAME?	#NAME?	5
6	feet/sec	#NAME?	#NAME?	6
7	inches/sec	#NAME?	#NAME?	7
8	centimeters/sec	#NAME?	#NAME?	8
9	kilometers/hour	#NAME?	#NAME?	9
10	meters/hour	#NAME?	#NAME?	10
11	meters/min	#NAME?	#NAME?	11
12	meters/sec	#NAME?	#NAME?	12
				13
<b>Viscosity Conversion Test</b>				14
<b>From:</b>	centipoises		1	15
<b>To</b>				16
1	centipoises	#NAME?	#NAME?	17
2	poise	#NAME?	#NAME?	18
3	grams/centimeter-sec	#NAME?	#NAME?	19
4	pounds/foot-sec	#NAME?	#NAME?	20
5	pounds/foot-hour	#NAME?	#NAME?	21
6	pounds(force)-sec/square foot	#NAME?	#NAME?	22
7	kilograms/meter-hour	#NAME?	#NAME?	
8	Newton-sec/square meter	#NAME?	#NAME?	<b>Volume</b>
9	Pascal-sec	#NAME?	#NAME?	<b>From:</b>
				<b>To</b>
				1
				2
				3
				4
				5
				6
				7
				8
				9
				10
				11
				12
				13

Units V

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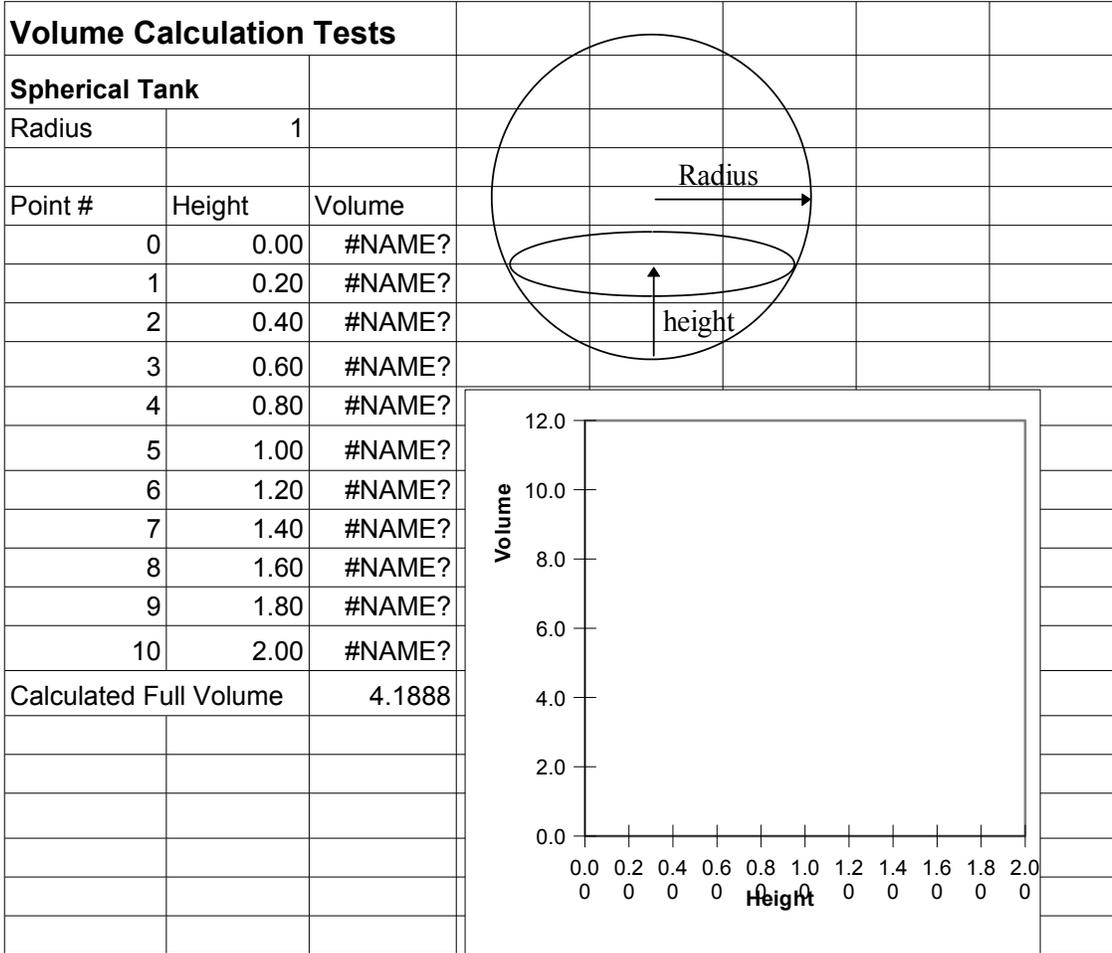
Units V

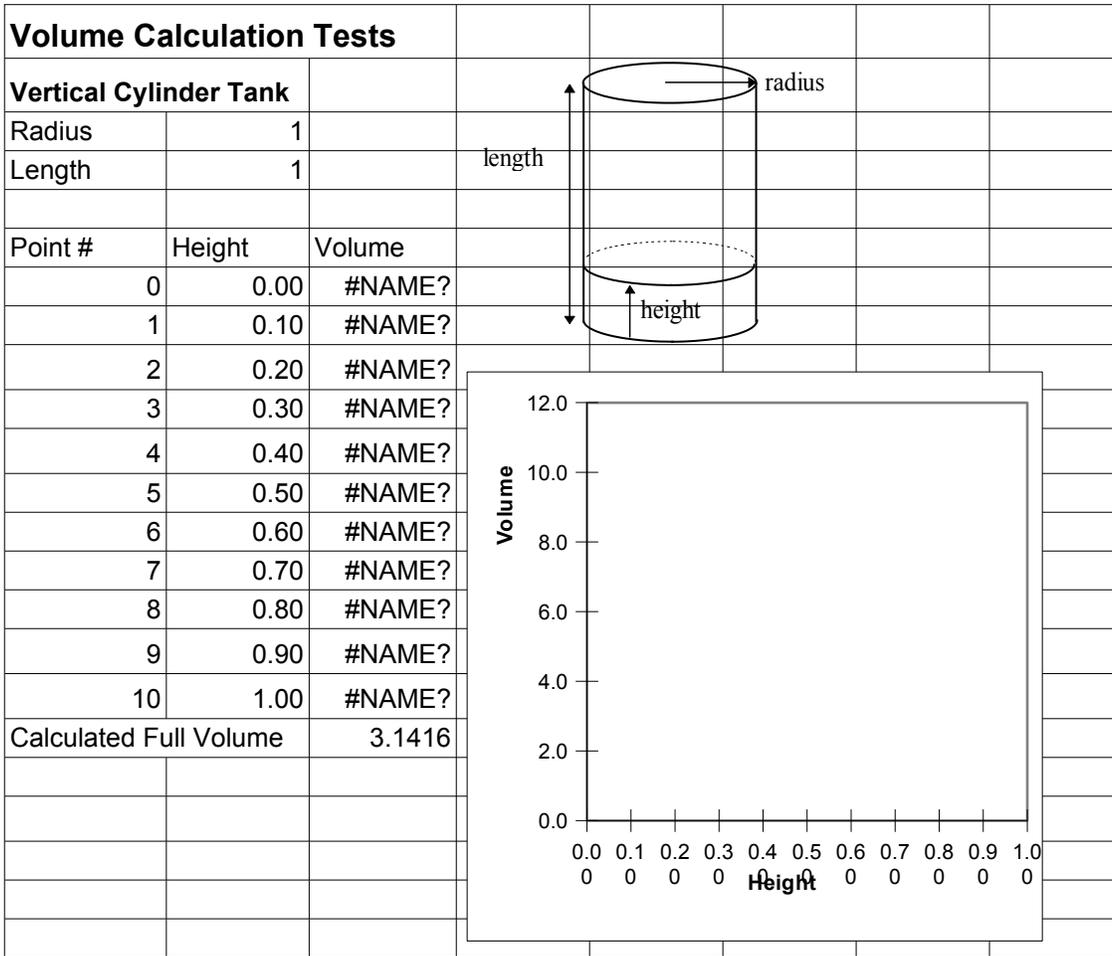
<b>Volume Conversion Test</b>			
gallons	1		
gallons	#NAME?	#NAME?	
cubic feet	#NAME?	#NAME?	
cubic inches	#NAME?	#NAME?	
cubic yards	#NAME?	#NAME?	
cubic meters	#NAME?	#NAME?	
dekaliters	#NAME?	#NAME?	
fluid drams	#NAME?	#NAME?	
dry gallons	#NAME?	#NAME?	
Imperial gallons	#NAME?	#NAME?	
gills	#NAME?	#NAME?	
hectoliters	#NAME?	#NAME?	
liters	#NAME?	#NAME?	
cubic centimeters	#NAME?	#NAME?	
milliliters	#NAME?	#NAME?	
minims	#NAME?	#NAME?	
fluid ounces	#NAME?	#NAME?	
pints	#NAME?	#NAME?	
quarts	#NAME?	#NAME?	
acre-feet	#NAME?	#NAME?	
barrels (beer)	#NAME?	#NAME?	0.032258
barrels	#NAME?	#NAME?	0.02381
bushels	#NAME?	#NAME?	
<b>Flow Conversion Test</b>			
gallons/min	1		
gallons/hour	#NAME?	#NAME?	
gallons/min	#NAME?	#NAME?	
gallons/sec	#NAME?	#NAME?	
million gallons/day	#NAME?	#NAME?	
acre-feet/hour	#NAME?	#NAME?	
barrels/day	#NAME?	#NAME?	
barrels/hour	#NAME?	#NAME?	
barrels/min	#NAME?	#NAME?	
barrels(beer)/day	#NAME?	#NAME?	
barrels(beer)/hour	#NAME?	#NAME?	
barrels(beer)/min	#NAME?	#NAME?	
cubic feet/day	#NAME?	#NAME?	
cubic feet/hour	#NAME?	#NAME?	

Units V

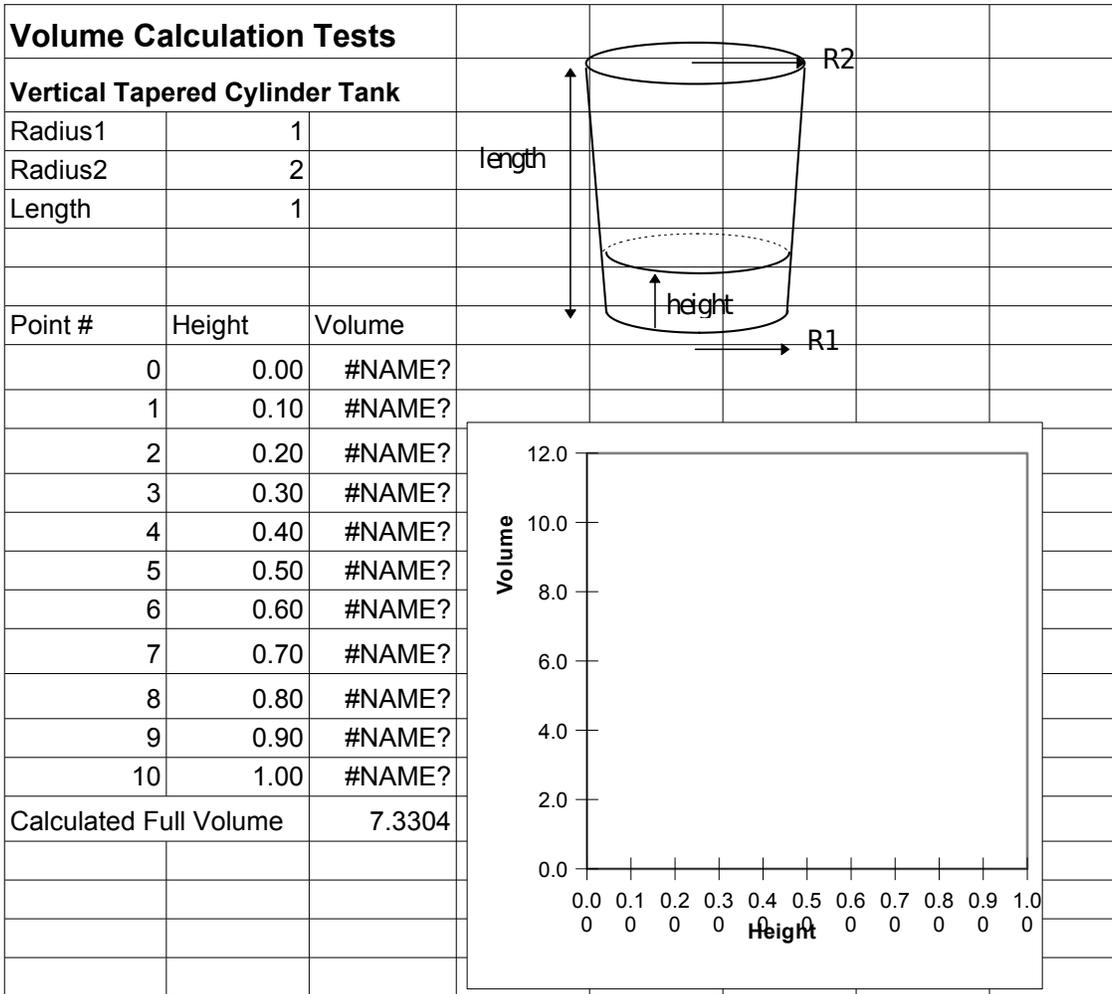
cubic feet/min	#NAME?	#NAME?	
cubic feet/sec	#NAME?	#NAME?	
cubic meters/day	#NAME?	#NAME?	
cubic meters/hour	#NAME?	#NAME?	
cubic meters/min	#NAME?	#NAME?	
cubic meters/sec	#NAME?	#NAME?	
hectoliters/hour	#NAME?	#NAME?	
hectoliters/min	#NAME?	#NAME?	
hectoliters/sec	#NAME?	#NAME?	
liters/hour	#NAME?	#NAME?	
liters/min	#NAME?	#NAME?	
liters/sec	#NAME?	#NAME?	
Imperial gallons/hour	#NAME?	#NAME?	
Imperial gallons/min	#NAME?	#NAME?	
Imperial gallons/sec	#NAME?	#NAME?	

# Sphere

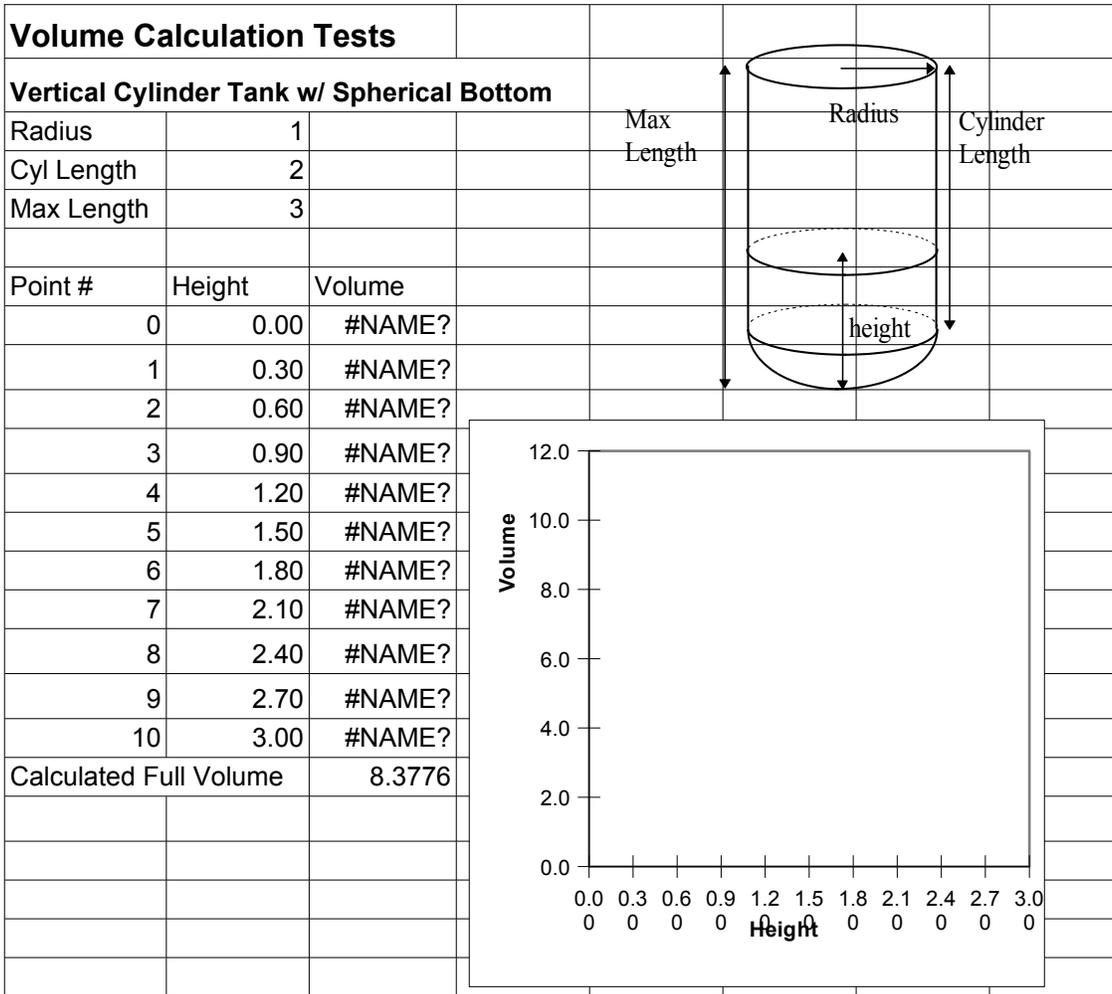




TaperedCyl



VertCylCap



HorzCyl

Volume Calculation Tests		
<b>Horizontal Cylinder Tank</b>		
Radius	2	
Length	1	
Point #	Height	Volume
0	0.00	#NAME?
1	0.40	#NAME?
2	0.80	#NAME?
3	1.20	#NAME?
4	1.60	#NAME?
5	2.00	#NAME?
6	2.40	#NAME?
7	2.80	#NAME?
8	3.20	#NAME?
9	3.60	#NAME?
10	4.00	#NAME?
Calculated Full Volume		12.5664

The diagram shows a horizontal cylinder. A vertical line from the center to the top edge is labeled 'Radius'. A horizontal line from the left end to the right end is labeled 'Length'. A vertical line from the bottom edge to the center line is labeled 'height'. The cylinder is drawn in perspective, with a dashed line for the hidden back edge.

The graph plots Volume on the y-axis (ranging from 0.0 to 12.0) against Height on the x-axis (ranging from 0.0 to 4.0). The x-axis has major ticks every 0.4 units, and the y-axis has major ticks every 2.0 units. The curve represents the volume of liquid in the cylinder as a function of the liquid height.

Volume Calculation Tests					
Horizontal Cylinder Tank with End Caps					
Radius	2				
Point #	Height	Sphere Volume	Integrated Volume	%error	
0	0.00	#NAME?	#NAME?	0.0000	<p>This checks the numerical integration of the VolHorzCylCap function. If the input parameters are set to produce spherical end caps, and the cylinder length is set to 0, then the results of the numerical integration can then be compared to the closed form solution given by VolSphere.</p>
1	0.40	#NAME?	#NAME?	#NAME?	
2	0.80	#NAME?	#NAME?	#NAME?	
3	1.20	#NAME?	#NAME?	#NAME?	
4	1.60	#NAME?	#NAME?	#NAME?	
5	2.00	#NAME?	#NAME?	#NAME?	
6	2.40	#NAME?	#NAME?	#NAME?	
7	2.80	#NAME?	#NAME?	#NAME?	
8	3.20	#NAME?	#NAME?	#NAME?	
9	3.60	#NAME?	#NAME?	#NAME?	
10	4.00	#NAME?	#NAME?	#NAME?	



