# Significance using the XL t-test function Mn

72124 005 D 72124 005 W

row 4	982.0	928.3	777		83.7 % Solids
	905.0	1123.1	940		83.7
	839.0	1031.1	863		83.7
	835.0	984.5	824		83.7
	954.0	1064.5	891		83.7
row 8	909.0	982.1	822		83.7
n	6	6			
Mean	904.00	1018.92			
St.dev	59.32	69.03			
St. de V	37.32	07.03	Comparison		
Pooled st.dev., s			64.36		
Mean diff, d			114.92		
SE(diff)			37.158		
t statistic			3.093		
degrees of freedom			10		
critical value (.05)			2.228	<b>Conclusion:</b>	There is a real difference between the means
Target diff, 5%			45.20	t statistic	1.216 A 5% difference would not be significant
Target diff, 10%			90.40	t statistic	2.433 A 10% difference would be significant
Target diff, 12.5%			113.00	t statistic	3.041 A 12.5% difference would be significant

Extra sets of results may be inserted between rows 4 and 8. Inserting them before row 4 or after row 7 will exclude them from the data set. Deleting row 4 or row 8 will destroy the links to the calculation

Result

# Significance using the XL t-test function Mn

72268 013 D 72268 013 W

2691.0   2671.3   2292   85.8     3126.0   2632.9   2259   85.8     3078.0   2531.5   2172   85.8     2852.0   2680.7   2300   85.8     2802.0   2623.5   2251   85.8     Tow 8   2802.0   2623.5   2251   85.8     Mean   2828.67   2569.35     St.dev   258.98   153.05     Pooled st.dev., s	row 4	2423.0	2276.2	1953		85.8 % Solids
3078.0   2531.5   2172   85.8     2852.0   2680.7   2300   85.8     2802.0   2623.5   2251   85.8     1		2691.0	2671.3	2292		85.8
row 8    2852.0   2680.7   2300   85.8     2802.0   2623.5   2251   85.8     10		3126.0	2632.9	2259		85.8
row 8		3078.0	2531.5	2172		85.8
Target diff, 5%		2852.0	2680.7	2300		85.8
Mean   2828.67   2569.35	row 8	2802.0	2623.5	2251		85.8
Mean   2828.67   2569.35	_					
St.dev 258.98 153.05  Pooled st.dev., s Mean diff, d SE(diff) t statistic degrees of freedom critical value (.05)  Target diff, 5% Target diff, 5% Target diff, 10%  153.05  Comparison 212.71 259.32 259.32 2112 2112 2112 2112 2112 2112 2112 2	n	6	6			
Pooled st.dev., s Mean diff, d SE(diff) t statistic degrees of freedom critical value (.05)  Target diff, 5% Target diff, 5% Target diff, 10%  Comparison 212.71 259.32 259.32 321.12 422.809 431.12 432.87  Target diff, 5% The difference between the means is not significant 1.152 A 5% difference would not be significant 2.303 A 10% difference would be significant	Mean	2828.67	2569.35			
Pooled st.dev., s Mean diff, d SE(diff) SE(diff) 122.809 t statistic degrees of freedom critical value (.05)  Target diff, 5% Target diff, 5% Target diff, 10%	St.dev_	258.98	153.05			
Mean diff, d SE(diff) 122.809 t statistic 2.112 degrees of freedom critical value (.05)  Target diff, 5% Target diff, 5% Target diff, 10%  Target diff, 10%  122.809 10 10 10 10 10 10 10 11 1152 1152 1152				Comparison		
SE(diff) t statistic degrees of freedom critical value (.05)  Target diff, 5% Target diff, 5% Target diff, 10%  122.809 2.112 Conclusion: The difference between the means is not significant  10 2.228  Conclusion:  The difference would not be significant  1.152 A 5% difference would not be significant 282.87 t statistic 2.303 A 10% difference would be significant	Pooled st.dev., s			212.71		
t statistic degrees of freedom critical value (.05)  Conclusion: The difference between the means is not significant  Target diff, 5% Target diff, 10%  141.43 Target diff, 10%  141.43 T statistic Target diff, 10%  282.87 T statistic T	Mean diff, d			259.32		
degrees of freedom critical value (.05)  Conclusion: The difference between the means is not significant  Target diff, 5% Target diff, 10%  141.43 t statistic 1.152 A 5% difference would not be significant t statistic 2.303 A 10% difference would be significant	SE(diff)			122.809		
Target diff, 5% Target diff, 10%  Conclusion:  The difference between the means is not significant  Target diff, 5% Target diff, 10%  Conclusion:  The difference between the means is not significant  1.152 A 5% difference would not be significant  282.87 t statistic 2.303 A 10% difference would be significant	t statistic			2.112		
Target diff, 5% 141.43 t statistic 1.152 A 5% difference would not be significant Target diff, 10% 282.87 t statistic 2.303 A 10% difference would be significant	degrees of freedom			10		
Target diff, 10% 282.87 t statistic 2.303 A 10% difference would be significant	critical value (.05)			2.228	<b>Conclusion:</b>	The difference between the means is not significant
Target diff, 10% 282.87 t statistic 2.303 A 10% difference would be significant						
Target diff, 10% 282.87 t statistic 2.303 A 10% difference would be significant						
	•					· · · · · · · · · · · · · · · · · · ·
Target diff, 12.5% 353.58 t statistic 2.879 A 12.5% difference would be significant						· ·
	Target diff, 12.5%			353.58	t statistic	2.879 A 12.5% difference would be significant

Extra sets of results may be inserted between rows 4 and 8. Inserting them before row 4 or after row 7 will exclude them from the data set. Deleting row 4 or row 8 will destroy the links to the calculation

Result

## Significance using the XL t-test function Mo

	72268 013 D	72268 013 W	Result		
row 4	12.8	7.4	1953		85.8 % Solids
	11.1	8.6	2292		85.8
	16.9	9.3	2259		85.8
	21.7	8.2	2172		85.8
	15.0	9.3	2300		85.8
row 8	14.9	8.6	2251		85.8
-					
n	6	6			
Mean	15.40	8.55			
St.dev	3.68				
			Comparison		
Pooled st.dev., s			2.65		
Mean diff, d			6.85		
SE(diff)			1.530		
t statistic			4.476		
degrees of freedom			10		
critical value (.05)			2.228	Conclusion:	There is a real difference between the means
Toront diff 50/			0.77	t atatiatia	0.500 A.50/ difference would not be signifferent
Target diff, 5%			0.77	t statistic	0.503 A 5% difference would not be significant
Target diff, 10%			1.54	t statistic	1.006 A 10% difference would not be significant
Target diff, 12.5%			1.93	t statistic	1.258 A 12.5% difference would not be significant

## Significance using the XL t-test function Pb

	72268 013 D	72268 013 W	Result		
row 4	396.0	296.0	254		85.8 % Solids
	431.0	384.6	330		85.8
	560.0	354.3	304		85.8
	523.0		284		85.8
	488.0	361.3	310		85.8
row 8	438.0	346.2	297		85.8
ŗ					
n	6	6			
Mean	472.67	345.57			
St.dev	61.99				
			Comparison		
Pooled st.dev., s			48.71		
Mean diff, d			127.10		
SE(diff)			28.122		
t statistic			4.519		
degrees of freedom			10		
critical value (.05)		l	2.228	Conclusion:	There is a real difference between the means
Target diff, 5%			23.63	t statistic	0.840 A 5% difference would not be significant
Target diff, 10%			47.27	t statistic	1.681 A 10% difference would not be significant
Target diff, 12.5%			59.08	t statistic	2.101 A 12.5% difference would not be significant

## Significance using the XL t-test function Pb

	72124 005 D	72124 005 W	Result		
row 4	13.0	12.1	10.1		83.7 % Solids
	12.3	13.4	11.2		83.7
	11.5	16.4	13.7		83.7
	11.6	13.0	10.9		83.7
	13.3	13.7	11.5		83.7
row 8	13.0	11.8	9.88		83.7
_					
n	6	6			
Mean	12.45	13.40			
St.dev	0.77	1.64			
			Comparison		
Pooled st.dev., s			1.28		
Mean diff, d			0.95		
SE(diff)			0.739		
t statistic			1.282		
degrees of freedom			10		
critical value (.05)			2.228	<b>Conclusion:</b>	The difference between the means is not significant
Target diff, 5%			0.62	t statistic	0.843 A 5% difference would not be significant
Target diff, 10%			1.25	t statistic	1.686 A 10% difference would not be significant
Target diff, 12.5%			1.56	t statistic	2.107 A 12.5% difference would not be significant

## Significance using the XL t-test function Se

36		_			
	72268 013 D	72268 013 W	Result		
row 4	1.2	1.2	1.0		85.8 % Solids
	1.8	1.3	1.1		85.8
	2.2	1.6	1.4		85.8
	2.1	1.6	1.4		85.8
	1.3	1.9	1.6		85.8
row 8	1.5	1.7	1.5		85.8
n	6	6			
Mean	1.68	1.55			
St.dev	0.42	0.27			
			Comparison		
Pooled st.dev., s			0.35		
Mean diff, d			0.13		
SE(diff)			0.203		
t statistic			0.636		
degrees of freedom			10		
critical value (.05)			2.228	<b>Conclusion:</b>	The difference between the means is not significant
- 4165 511					
Target diff, 5%			0.08	t statistic	0.414 A 5% difference would not be significant
Target diff, 10%			0.17	t statistic	0.828 A 10% difference would not be significant
Target diff, 12.5%			0.21	t statistic	1.035 A 12.5% difference would not be significant

## Significance using the XL t-test function Sn

	72268 013 D	72268 013 W	Result		
row 4	27.8	20.9	17.9		85.8 % Solids
	26.1	29.8	25.6		85.8
	36.1	23.4	20.1		85.8
	41.8		20.4		85.8
	34.2		21.1		85.8
row 8	29.4	24.6	21.1		85.8
,					
n		-			
Mean					
St.dev	5.92				
			Comparison		
Pooled st.dev., s			4.67		
Mean diff, d			8.05		
SE(diff)			2.698		
t statistic			2.985		
degrees of freedom			10	~	TT 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2
critical value (.05)		l	2.228	Conclusion:	There is a real difference between the means
Target diff 50/			1.62	t atatistis	0.604 A 50/ difference would not be significant
Target diff, 5%			1.63 3.26	t statistic	0.604 A 5% difference would not be significant
Target diff, 10% Target diff, 12.5%			3.26 4.07	t statistic	1.207 A 10% difference would not be significant 1.509 A 12.5% difference would not be significant
Target um, 12.5%			4.07	t statistic	1.509 A 12.5% difference would not be significant

#### Significance using the XL t-test function

	72268 013 D	72268 013 W	Result		
row 4	93.2	77.2	66.2		85.8 % Solids
	103.0	91.6	78.6		85.8
	125.0	91.4	78.4		85.8
	125.0	85.3	73.2		85.8
	111.0	93.2	80		85.8
row 8	112.0	89.6	76.9		85.8
n	6	6			
Mean	111.53	88.05			
St.dev	12.43	5.99			
_		(	Comparison		
Pooled st.dev., s			9.75		
Mean diff, d			23.48		
SE(diff)			5.632		
t statistic			4.169		
degrees of freedom			10		
critical value (.05)		L	2.228	<b>Conclusion:</b>	There is a real difference between the means
Target diff, 5%			5.58	t statistic	0.990 A 5% difference would not be significant
Target diff, 10%			11.15	t statistic	1.981 A 10% difference would not be significant
Target diff, 12.5%			13.94	t statistic	2.476 A 12.5% difference would be significant

#### Significance using the XL t-test function

$\mathbf{V}$					
	72124 005 D	72124 005 W	Result		
row 4	22.5	22.3	18.7		83.7 % Solids
	22.0	24.6	20.6		83.7
	19.9	25.3	21.2		83.7
	21.1	30.5	25.5		83.7
	28.7	29.3	24.5		83.7
row 8	28.1	24.3	20.3		83.7
n	6	6			
Mean	23.72	26.05			
St.dev	3.74				
		<u> </u>	Comparison		
Pooled st.dev., s			3.45		
Mean diff, d			2.33		
SE(diff)			1.994		
t statistic			1.168		
degrees of freedom			10	C 1 .	TTI 1:00 1 4 4 1 :
critical value (.05)		L	2.228	Conclusion:	The difference between the means is not significant
Target diff, 5%			1.19	t statistic	0.595 A 5% difference would not be significant
Target diff, 10%			2.37	t statistic	1.189 A 10% difference would not be significant
Target diff, 12.5%			2.96	t statistic	1.486 A 12.5% difference would not be significant
1 aiget uiii, 12.3/0			2.90	i statistic	1.400 A 12.370 difference would not be significant