

Math 123: Exam Conversion and Formula Sheet

To be provided with Exam 2 and 3

U. S. Customary Units		
Length	Volume	Weight
1 foot (ft.) = 12 inches (in.) 1 yard (yd.) = 3 ft. 1 mile (mi.) = 5,280 ft.	1 cup (c.) = 8 fluid ounces (fl. oz.) 1 pint (pt.) = 2 c. 1 quart (qt.) = 2 pt. 1 gallon (gal.) = 4 qt.	1 pound (lb.) = 16 ounces (oz.) 1 ton (T.) = 2,000 lbs.

Metric Relationships							
Length = Meter (m)			Volume = Liter (L)			Weight = Gram (g)	
Prefix and Abbreviation	kilo k	hecto h	deka da	UNIT m, L, g	deci d	centi c	milli m

Conversion between U.S. Customary and the Metric system		
Length	Volume	Weight
1 inch = 2.54 centimeters 1 yard ≈ 0.9144 meter 1 mile ≈ 1.6093 kilometer	1 quart ≈ 0.9464 liter	1 pound ≈ 0.4536 kilogram 1 ounce ≈ 28.3495 grams

Temperature	
$F^{\circ} = \frac{9}{5}C^{\circ} + 32$	$C^{\circ} = \frac{5}{9}(F^{\circ} - 32)$

Carbon Dioxide Emissions	
CO_2 from gas 19.8 lb. per gallon	CO_2 from electricity production 1.37 lb. per kWh

Special Conversions		
1 cm ³ = 1 cc = 1 ml 1 liter = .001 m ³ = 1000 cm ³	1 ft ³ ≈ 7.4805 gallons	1 gallon H ₂ O ≈ 8.33 lbs.

Other Useful Information	
Area of Rectangle = Length X Width Area of a Circle = πr^2	Volume of Cylinder = $\pi r^2 h$ Volume of Rectangular box = Length X Width X Height

z-Score Probability		z-Score Probability		z-Score Probability		z-Score Probability	
-3.5	0.0002	-1.0	0.1587	0.0	0.5	1.1	0.8643
-3.0	0.0013	-0.95	0.1711	0.05	0.5199	1.2	0.8849
-2.9	0.0019	-0.90	0.1841	0.10	0.5398	1.3	0.9032
-2.8	0.0026	-0.85	0.1977	0.15	0.5596	1.4	0.9192
-2.7	0.0035	-0.80	0.2119	0.20	0.5793	1.5	0.9332
-2.6	0.0047	-0.75	0.2266	0.25	0.5987	1.6	0.9452
-2.5	0.0062	-0.70	0.2420	0.30	0.6179	1.7	0.9554
-2.4	0.0082	-0.65	0.2578	0.35	0.6368	1.8	0.9641
-2.3	0.0107	-0.60	0.2743	0.40	0.6554	1.9	0.9713
-2.2	0.0139	-0.55	0.2912	0.45	0.6736	2.0	0.9772
-2.1	0.0179	-0.50	0.3085	0.50	0.6915	2.1	0.9821
-2.0	0.0228	-0.45	0.3264	0.55	0.7088	2.2	0.9861
-1.9	0.0287	-0.40	0.3446	0.60	0.7257	2.3	0.9893
-1.8	0.0359	-0.35	0.3632	0.65	0.7422	2.4	0.9918
-1.7	0.0446	-0.30	0.3821	0.70	0.7580	2.5	0.9938
-1.6	0.0548	-0.25	0.4013	0.75	0.7734	2.6	0.9953
-1.5	0.0668	-0.20	0.4207	0.80	0.7881	2.7	0.9965
-1.4	0.0808	-0.15	0.4404	0.85	0.8023	2.8	0.9974
-1.3	0.0968	-0.10	0.4602	0.90	0.8159	2.9	0.9981
-1.2	0.1151	-0.05	0.4801	0.95	0.8289	3.0	0.9987
-1.1	0.1357	0.0	0.5	1.0	0.8413	3.5	0.9998

$$Z = \frac{x - \mu}{\sigma}$$

$$y = mx + b$$

$$m = \frac{\text{Absolute change in } Y}{\text{Absolute change in } X} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\text{Amount} = \text{Initial Amount}(1 \pm \text{Percent Increase/Decrease})^{\text{Time period}}$$

$$I = PRT$$

$$\text{Balance} = \text{Principal} \times (1 + \text{Rate})^{\text{Time}}$$

$$\text{Balance} = \text{Principal} \left(1 + \frac{\text{interest rate}}{\# \text{ times comp each year}} \right)^{((\# \text{ times comp each year}) \times (\text{number of years}))}$$

= PMT(monthly interest rate, number of deposits, amount of loan)

= PV(monthly interest rate, number of deposits, payment amount)

= FV(monthly interest rate, number of deposits, payment amount)