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 cup (c.) = 8 fluid ounces (fl. oz.)	1 pound (lb.) = 16 ounces (oz.)
1 yard (yd.) = 3 ft.	1 pint (pt.) = 2 c.	1 ton (T.) = 2,000 lbs.
1 mile (mi.) = 5,280 ft.	1 quart (qt.) = 2 pt.	
	1 gallon (gal.) = 4 qt.	

Metric Relationships

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

Conversion between U.S. Customary and the Metric system

Length	Volume	Weight
1 inch = 2.54 centimeters	1 quart ≈ 0.9464 liter	1 pound ≈ 0.4536 kilogram
1 yard ≈ 0.9144 meter	1 mL = .0 33814 OZ	1 ounce ≈ 28.3495 grams
1 mile ≈ 1.6093 kilometer		1 gal 128 oz

Temperature

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

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 ft^3 ≈ 7.4805 gallons	1 gallon H_2O ≈ 8.33 lbs.
1 liter = .001 m^3 = 1000 cm^3		

Other Useful Information

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

z-Score	Probability	z-Score	Probability	z-Score	Probability	z-Score	Probability
-4.5	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	0.2573	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

$$Z = \frac{x - \mu}{\sigma} \qquad Margin\ of\ Error = \pm \frac{1}{\sqrt{n}}$$

$I = PRT$ $\qquad$ $\text{Balance} = \text{Principal} \times (1 + \text{Rate})^{\text{Time}}$ $\qquad$ $D = \frac{70}{P}$

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

= 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)

$y = mx + b$ $\qquad$ $m = \frac{\text{Change in } Y}{\text{Change in } X} = \frac{y_2 - y_1}{x_2 - x_1}$ $\qquad$ $r = (\pm)\sqrt{R^2}$

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

Over →