# MAT226 Week 2 Assignment

For this assignment, your new employer wants you to create a study guide with answers for your fellow employees and applications to help them relate the formulas and math concepts.

Here is what they need from you:

Part 1: Solve the following 20 problems. Apply the correct formula as needed from the list.

Part 2: Choose 5 of the formulas and write 50 words explaining the formula, variables and how it is applied in the real world **or** choose one of the formulas and write 250 words. Make sure there are a minimum of 2 references.

# Formula List

* Area of a circle: $A=πr^{2}$
* Net Income: $NI = R – E$
* Cash ratio = cash / current liabilities
* Perimeter of a rectangle: $P=2l+2w$
* Area of a Square: $A=s^{2}$
* Circumference of a circle: $C=2πr$
* Area of a rectangle: $A=lw$
* Distance traveled: $d=rt$
* Simple Interest Formula: $I=Prt$
* Propagation: Propagation delay = Distance between sender and receiver / Transmission speed
* Compound Interest Formula: $A = P\left.\left(1 + \frac{r}{n}\right.\right)^{nt}$
* Celsius to Fahrenheit: $°F=\frac{9}{5}°C+32$
* Pythagorean Theorem: $c^{2}=a^{2}+b^{2}$
* Quadratic Formula: $x=\frac{-b\pm \sqrt{b^{2}-4ac}}{2a}$
* Volume of a Sphere: $V=\frac{4}{3}πr^{3}$

# Part 1

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| **Problem** | **Answer** |
| 1. What is the area of a circular table if the radius is 2ft?
 | Click or tap here to enter text. |
| 1. Simplify the square root of 121.
 | Click or tap here to enter text. |
| 1. Calculate the Fahrenheit degrees if a thermometer reads 39oCelsius.
 | Click or tap here to enter text. |
| 1. Calculate the volume of a basketball that measures 4.7in for the radius.
 | Click or tap here to enter text. |
| 1. A garden plot (square) has an area of 36ft2. What is the length of the sides?
 | Click or tap here to enter text. |
| 1. What is the simple interest of a principal of $1200, at a rate of 0.14 for 3 years?
 | Click or tap here to enter text. |
| 1. What should the revenue be for a company that wants to make a net income of at least $57,000, if the expenses are projected to be $39,000? (Solve as an inequality)
 | Click or tap here to enter text. |
| 1. Calculate the cash ratio if the cash is 98,000 and the current liabilities are 29,000.
 | Click or tap here to enter text. |
| 1. Calculate the Propagation delay if the distance is 20 meters and the transmission speed is 220,000,000m/s.
 | Click or tap here to enter text. |
| 1. Solve for the inequality: 2x + 4 <10
 | Click or tap here to enter text. |
| 1. Using the quadratic formula, solve for x2+5x-8=0
 | Click or tap here to enter text. |
| 1. What is the length of the c side of a right triangle, if a = 5 and b = 7.
 | Click or tap here to enter text. |
| 1. To maintain a banking account, the account must have a minimum of $50. The account has $73 and a check must be written for the purchase of gasoline. Write this out as an inequality and solve for the variable x (amount to spend on gasoline).
 | Click or tap here to enter text. |
| 1. Using the quadratic formula, solve for x2+7x-10=0
 | Click or tap here to enter text. |
| 1. Calculate the volume of a baseball if the radius is 1.44in.
 | Click or tap here to enter text. |
| 1. Calculate the Cube root of 729.
 | Click or tap here to enter text. |
| 1. What is the simple interest of a principal of $28,000, at a rate of 0.06 for 5 years.
 | Click or tap here to enter text. |
| 1. Calculate the Fahrenheit degrees, if it is 28oCelsius.
 | Click or tap here to enter text. |
| 1. What is the length of a picture frame that is 8in wide and has a perimeter of 38in?
 | Click or tap here to enter text. |
| 1. Calculate the circumference of a circle with a diameter of 4.2.
 | Click or tap here to enter text. |

# Part 2

Choose ONE of the following:

A. Choose 5 of the formulas and write 50 words per formula, explaining the formula, variables and how it is applied in the real world

**or**

B. Choose one of the formulas and write 250 words. Make sure there are a minimum of 2 references.

Click or tap here to enter text.

# References

Click or tap here to enter text.