UBMS STATE

MATH:

Algebra 2:

If John takes 3 hours to mow a lawn and Mary takes 2 hours to mow the same lawn, how much time do you think it will take for Mary and John to mow the lawn together?

Solve:

$Y = -3X + 4$

$X + 4Y = -6$

Pre-calculus:

Functions and domain:

Domain refers to X axis

Range refers to Y axis

Problem 1:

Find if the following is a function or not:

$Y = 2X+8$

Problem 2:

Find the domain and range for the following functions:

a) $Y = X^2 – 3$
b) $Y = -X^2 + 2$

Problem 3:

If f(x)= X^2 + 4X and g(x) = 3x - 5, find (f*g)(x) and (g*f)(x).

Percentage:

Let's take a look at the following PDF:

Introduction to Percentages.pdf.

Problem:

A birthday celebration treat at a nearby restaurant costs $46 for Jacob. This total is including the tax amount of 8% of the meal cost. Find the meal cost and the amount required to tip the server, if Jacob decides to give a tip of 15%.

Formulas:

For matrix multiplication:

$AB = [c_{ij}]$, where $c_{ij} = a_{i1} b_{1j} + a_{i2} b_{2j} + \ldots + a_{in} b_{nj}$.

Multiply

$$\begin{bmatrix} 0 & -1 & 2 \\ 4 & 11 & 2 \end{bmatrix} \begin{bmatrix} 3 & -1 \\ 1 & 2 \\ 6 & 1 \end{bmatrix}$$

PHYSICS:

- $d = v_o \bullet t + 0.5 \bullet a \bullet t^2$
- $v_f = v_o + a \bullet t$
- $v_f^2 = v_o^2 + 2 \bullet a \bullet d$
- $d = (v_o + v_f)/ 2 \bullet t$

Problem 1:

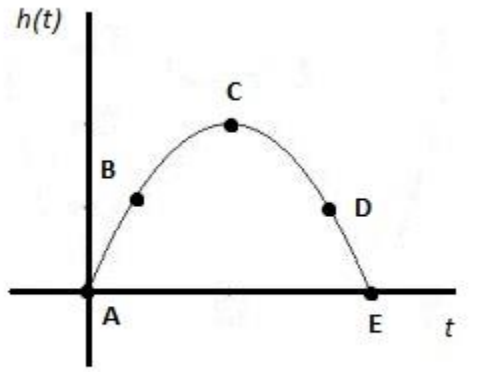
A race car accelerates uniformly from 18.5 m/s to 46.1 m/s in 2.47 seconds. Determine the acceleration of the car and the distance traveled.

Problem 2:

A stone is dropped into a deep well and is heard to hit the water 3.41 s after being dropped. Determine the depth of the well.

Problem 3:

The graph below is that of the height of a ball thrown vertically upward. At which point is the velocity close or equal to zero?



Problem 4:

When a car's speed changes from 20 m/s to 40 m/s, what happens to its kinetic energy?

Questions?