

“To me perseverance is having the will to be able to keep pushing forward” – J-von Hudson

Monday: *Convert the following to logarithmic form.*

1. $3^5 = x$
2. $5^x = 3$
3. $x^4 = 5.3$
4. $8^{4-x} = 6$
5. $3^x = 1.05$

Convert the following to exponential form

1. $\log_5 x = 3$
2. $\log_4 3 = x$
3. $\log_y x = 3$
4. $\log_x(x + 3) = 5$
5. $\log_5(x + 2) = 6$

Tuesday: Solve the following:

1. $\log_4 8x + \log_4 4 = 3$
2. $2 \log x + \log 4 = \log 100$
3. $3 \log_x 4 - \log_x 8 = \log_x 2x$
4. $\log_7 2 + \log_7 x^2 = \log_7 18$
5. $\log_3 9 + \log_3 x = 5$

Wednesday: Solve the following

1. You bought a new car for 17,000. The car decreases its value about 11% each year. What is the value after 7 years?
2. You open a new bank account with \$1,000 and a 3.5% interest rate in 2014. How much money will you have in the account after 15 years?
3. The current population of a town is 26,587 people. The town's population is growing at a rate of 5.7% each year. In how many years will the population be 50,000 people?

Thursday: (Mixed Review)

1.

Prove: $\csc x \cos x = \cot x$

2. Solve the following for the inverse: $f(x) = x^2 + 10$

3. Solve the following for the inverse: $f(x) = \frac{2x-3}{5}$

4. Identify the center and the radius of the following circle:

$$x^2 + 18x + y^2 - 12y = 12$$

5. Identify the center and the radius of the following circle:

$$x^2 + y^2 - 10x + 4y = 20$$