

Name: _____.

MATH 115 - SEC 011, WINTER 2011. QUIZ 1
TIME LIMIT: 20 MINUTES

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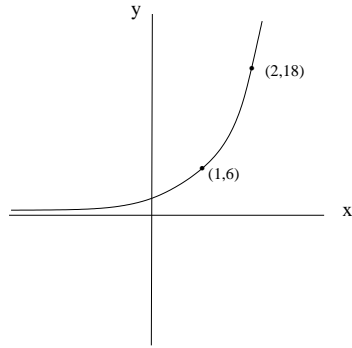
Good luck!

Problem 1 Find an equation for the line through the point $(2, 1)$, which is perpendicular to the line $y = 5x - 3$.

Problem 2 Find x when $6 \cdot 7^x = 4 \cdot 2^x$. Please give the exact answer, and also express it in decimal form with four significant digits.

Problem 3 (5 Points)

Find a formula the exponential function that passes through the points $(1, 6)$ and $(2, 18)$.



Problem 4

A spherical balloon is growing with radius $r = 3t + 1$, in centimeters, for time t is seconds. Find a formula for the volume of the balloon as a function of time (t). Find the volume of the balloon at 3 seconds.

Problem 5 A photocopy machine can reduce copies to 80% of their original size. By copying an already reduced copy, further reductions can be made. Estimate the number of times in succession that a page must be copied to make the final copy less than 15% of the size of the original.