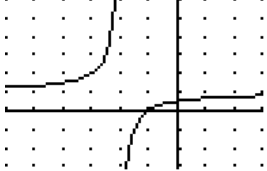
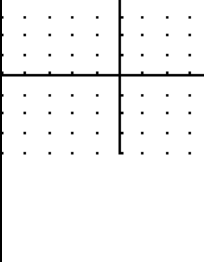
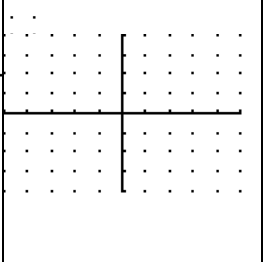
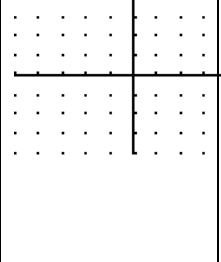
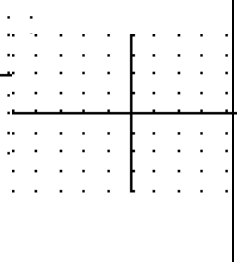
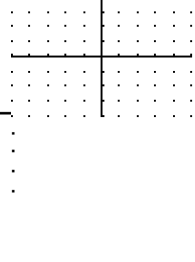
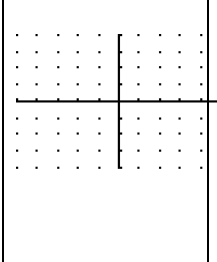


EVERYTHING YOU SHOULD HAVE LEARNED IN A 1050 CLASS ABOUT FUNCTIONS

|                             | Quadratic functions   | Polynomial functions  | Rational functions  | Radical functions  | Exponential function  | Logarithmic function  | Reading a graph (picture) of a function   |
|-----------------------------|---|---|---|--|---|---|---|
|                             | $f(x) = 2x^2 - 8x + 3$  | $P(x) = 2x^3 - x^2 - 4x + 3$  | $q(x) = \frac{-x + 5}{3x - 2}$  | $r(x) = \sqrt{x + 3}$  | $k(x) = 2 \cdot e^x - 1$  | $m(x) = \ln(x-1)$   |  |
| Asymptotes                  |   |   |   |  |   |   |   |
| Domain                      |   |   |   |  |   |   |   |
| Range                       |   |   |   |  |   |   |   |
| x-int.                      |   |   |   |  |   |   | Mark a,b on graph   |
| y-int.                      |   |   |   |  |   |   |   |
| $f^{-1}(x)$<br>if it exists |   |   |   |  |   |   |   |
| $f(3) =$                    |   |   |   |  |   |   | Mark <u>c</u> on graph  |
| If $f(x) = 2$ ,<br>$x = ?$  |   |   |   |  |   |   | Mark <u>d</u> on graph  |
| GRAPH it                    |  |  |  |  |  |  |   |

Find  $f(-5) =$

$(q \circ r)(6) =$

$f(t+1) =$

$r(f(x)) =$

Are any of these functions Even or Odd?

And a lot of other things we learned:

| A, B   | Square A<br>$A^2$ | Multiply them<br>(A)(B) and BA | Divide<br>them $\frac{B}{A}$ |
|--|-------------------|--------------------------------|------------------------------|
| Exponents<br>$(-2x^2y)^3, (6x^3y)$<br>Negative exponents<br>$(2xy^2)^{-3}, (3x^{-2}y)$   |                   |                                |                              |
| Complex numbers<br>$(3-2i), (2+i)$<br>Conjugates:  |                   |                                |                              |
| Matrices<br>$A = \begin{bmatrix} -2 & 1 \\ 4 & 3 \end{bmatrix}$ $B = \begin{bmatrix} 0 & 1 & -3 \\ 2 & 4 & 0 \end{bmatrix}$<br><br>$\det(A) =$ |                   |                                |                              |
| Sequences, Series<br><br>-1, 4, 9, ...<br><br>2, 2/3, 2/9, ...<br><br>1, 2, 3, 5, 8, ...<br><br>1, 4, 9, 16, ...                               | A, G, N           | $a_{15}$                       | $S_{15}$ $S_{\infty}?$       |

|   |
|---|
| Growth, decay: How long to go from \$500 to \$2000 at 4% interest compounded monthly.   |
| $2x - 3y = 8$   |
| $5x - 7y = -3$  |
| How many ways to solve?<br>Graph<br>Substitution<br>Linear combinations<br>Gauss-Jordan row operations<br>Gauss-Jordan Matrix reduction<br>Matrix algebra (use inverse) |
| Cramer's Rule   |
| And they all have the same answer!  |
| Binomial Theorem  |
| $\binom{12}{3} = {}_8C_5 = \frac{12!}{3!4!} =$  |
| $(2x-1)^5 =$  |
| What is the third degree term in $(3x+2)^6$ ?   |