

MATH 205 QUIZ 1 - Version A Answers

February 6, 2012

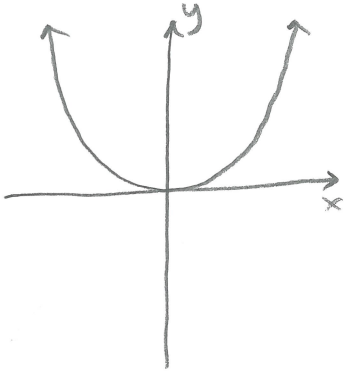
1. (1/2 point each) Expand and simplify:

(a) $(a - b)^2 = \underline{a^2 - 2ab + b^2}$ (b) $(x + y)(a + b) = \underline{xa + xb + ya + yb}$

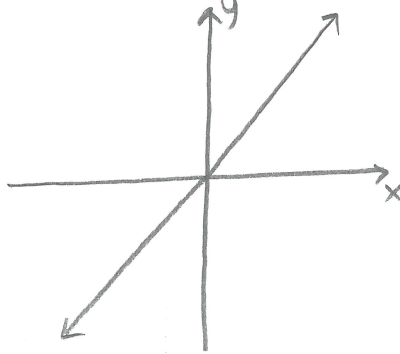
(c) $a(x + 2) = \underline{ax + 2a}$ (c) $(a + b)c = \underline{ac + bc}$

2. (1/2 point each) Sketch the following:

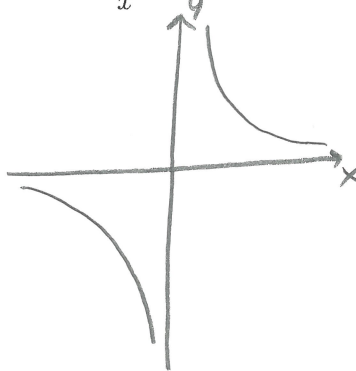
$y = x^2$



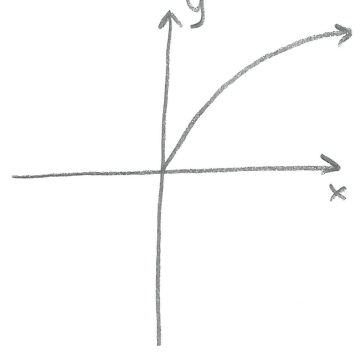
$y = x$



$y = \frac{1}{x}$



$y = \sqrt{x}$



3. (1 point) For $ax^2 + bx + c = 0$, state the quadratic formula: $x = \underline{\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$

4. (1 point) Find the x - and y -intercepts of $y = 6x^2 + x - 1$:

x -intercept : $x = \underline{-\frac{1}{2}, x = \frac{1}{3}}$ y -intercept : $y = \underline{-1}$

5. (2 points) If $f(x) = x^2 - x + 1$, compute and simplify $\frac{f(x+h) - f(x)}{h} = \underline{2x - 1 + h}$

6. (1 point) Factor: $2x^3 - 2x^2 - 4x = \underline{2x(x+1)(x-2)}$

7. (1 point) Simplify: $\frac{x^3 + 2x^2 - 25x - 50}{x - 5} = \underline{(x+5)(x+2)}$

Bonus : (1 point) State your answer in words below: What is the derivative (at a point on a curve)?

The slope of the tangent line to the curve at the point OR the rate of change of the curve at the point.