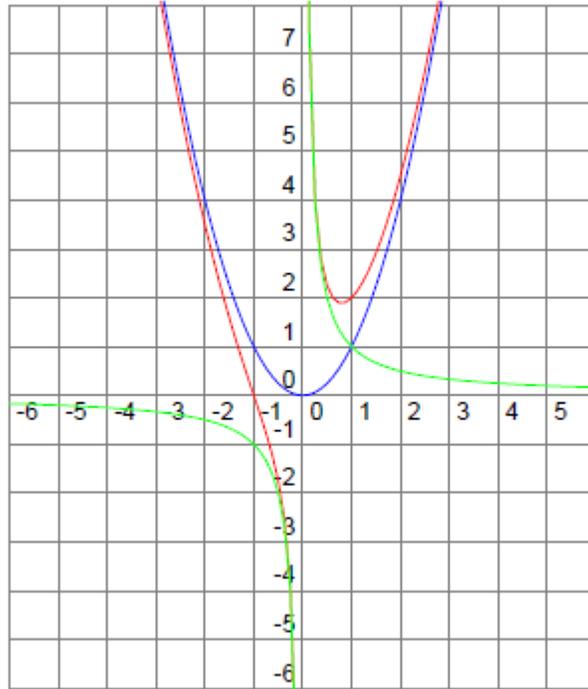


Math 6b/c: Homework 15
Homework #15 is due February 4th.

Adding Graphs

In class we drew a graph of the function $y = x^2 + \frac{1}{x}$
We carefully examined $y = x^2$ (blue) and $y = 1/x$ (green) and looked at what happens if one adds these two graphs (red).



Homework

For the homework, please do the same as the above example (i.e. use different colors) for the following graphs:

1. $y = x + \frac{1}{|x|}$

2. $y = \sqrt{x} + \frac{1}{x}$

3. $y = x - \frac{1}{x^2}$

(Optional) You can check your plots **AFTER** you finish at: <http://fooplot.com/>. Type the first function in the panel on the right, then use *Add* to type the second function which you are adding to the first.

Revision from math 5:

4. Simplify the following and show the answer in the exponent (power) form

$$(a) \frac{3^7 \cdot 2^7}{2^3 \cdot 2^4} =$$

$$(b) \frac{6^5 \cdot 2^4}{3^5 \cdot 2^2} =$$

$$(c) \frac{7^9 \cdot 2^5}{7^2 \cdot 2^4} =$$

$$(d) \frac{11^4}{11^2 \cdot 5^2 \cdot 5^3} =$$

$$(e) 7^4 \cdot 11^2 \cdot 11^{-5} \cdot 7^2 =$$

$$(f) \frac{3^{-5} \cdot 2^7}{3^{-3} \cdot 2^4} =$$

$$(g) \frac{42^2}{6^2} =$$

$$(h) \frac{3^5 \cdot 3^{-5}}{3^9} =$$

$$(i) \frac{x^2 \cdot y^2 \cdot x^{-3}}{x^2} =$$

5. Compute, but be very attentive to signs and the order of operations (first: operations in brackets, then multiplication or addition, then addition or subtraction). Show all the steps!

$$(a) (-5 - 9) \div (-2) + 7 =$$

$$(b) -2(-5 - 9) - 7 \times 4 =$$

$$(c) -9 + 14 \div (-2) + 7 =$$

$$(d) (-2) \times (-2) \times (-2) \times (-2) \times (-2) =$$

$$(e) -16 \div (-8) =$$

$$(f) -16 \div 8 =$$

$$(g) 16 \div (-8) =$$