HOW TO FIND THE FACTORS OF A NUMBER

When factoring polynomials, being able to find whole number factors quickly can be useful. Here's a way to use the TI 83 or 84 graphing calculator to generate a list of factors:

1. Clear the calculator's **y =** equation.
2. For example, let's find the factors of 24. Enter **y = 24/x** into the calculator's graphing equation.
3. Then, use the **2nd Table** function to get a list of x's and y's for that graph.
4. Starting at **x = 1** and ending at **x = 24**, scroll down through the table and look for integer—or whole number—pairs of x's and y's (ignore the decimals and duplicate pairs). These are the factors.

For 24, you'll get:

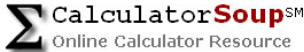| X	Y	X	Y	X	Y
1	24	9	2.6667	17	1.4118
2	12	10	2.4	18	1.3333
3	8	11	2.1818	19	1.2632
4	6	12	2	20	1.2
5	4.8	13	1.8462	21	1.1429
6	4	14	1.17143	22	1.0909
7	3.4286	15	1.6	23	1.0435
8	3	16	1.5	24	1

Therefore, you see that 24 has 4 integer pairs of factors:

1 & **24**	**2** & **12**	**3** & **8**	**4** & **6**

Remember that a positive number has pairs of negative factors (-2 • -12 = 24) as well as positive ones (2 • 12 = 24). A negative number, on the other hand, has factor pairs with mixed signs (2 • -12 = -24 and -2 • 12 = -24).

You can also find several "factor" calculators online:

- *ClassBRAin.com*
  http://www.classbrain.com/artteach/publish/article_48.shtml

- *algebra.help*
  www.algebrahelp.com
  http://www.algebrahelp.com/calculators/number/factoring/calc.do;jsessionid=65CBC2F F0EFD350AD759CF6310E80357?number=230

- Σ *CalculatorSoup* SM
  Online Calculator Resource
  http://www.calculatorsoup.com/calculators/math/factors.php