CALCULATOR WORKSHEET

The purpose of this assignment is to give you familiarity with using your calculator and to cover some common mistakes students make with using their calculators. Unless stated otherwise, put all answers in decimal form.

1. Begin with some basic calculations. Use your calculator to compute each of the following.

    (a) $49 \cdot 53$

    (b) $2.55201 - 6.524529$

    (c) $-15 \div 8$ (Note: Most calculators have a negative sign button that is different from the subtraction button. Use that button to make 15 negative before completing the calculation)

    (d) 2.6^2 (Note: Some calculators have a button that looks like x^2 which can be used to quickly square a number)

    (e) 3.09^4 (Note: The button you need for this operation appears on most calculators as something like y^x. Enter 3.09, hit that button, then hit 4.)

2. For some more advanced calculations, especially those involving fractions and/or parentheses, be very careful about the order your press the keys or the calculator will not do the calculation you want.

    EX. $\frac{1+3.6}{-4}$

    Attempting to press the keys in the most logical order will give you the wrong answer. $[1][+][3][.][6][\div][(-)][4][=]$, value 0.9

This would be an incorrect way to evaluate the expression, as your calculator will use order of operations to do $3.6/-4 = -0.1$, THEN add the 1 to give 0.9.

One correct way to evaluate the expression would be to hit $[=]$ on your calculator after entering the top of the fraction:

$[1][+][3][.][6][=]$ value 4.6, $[\div][(-)][4][=]$, value -1.15

Another correct way to evaluate the expression would be to use parentheses to clearly define for the calculator where the top and bottom of the fraction are:

$[(][1][+][3][.][6][)][\div][(-)][4][=]$, value -1.15

Another example where order of operations gets in the way is with exponents.

EX. $4^{2.1 \times 0.6}$

The following calculator input would be incorrect:

$[4][y^x][2][.][1][\times][0][.][6][=]$, value 11.02

It is incorrect because the calculator will follow order of operations and find $4^{2.1}$, then multiply the result by 0.6.

A correct sequence would be to use parentheses to define for the calculator what all is in the exponent:

$[4][y^x][(][2][.][1][\times][0][.][6][)][=]$, value 5.73

Now do these calculations yourself:

(a) $(4 + 3.1 \times 6) - (4.3 + 1.16)$

(b) $\frac{6 - 3.34}{1 + 4.51}$

(c) $2.4^{6-2.33}$

(d) $\frac{3.2^2 - 14.5}{6 \times (1.14 + 2.193)}$

3. Some scientific calculators can also add fractions and give you the answer in simplified fraction form. You should consult any instruction manual that came with your calculator to see if it can do this.

   If not, consider this some extra practice working with fractions. You should write each answer as a fraction in simplest form, and NOT as a decimal. Remember that a fraction is in simplest form if there is no whole number that divides evenly into both the numerator and denominator.

   (a) $\frac{2}{3} + \frac{6}{7}$

   (b) $\frac{9}{13} - \frac{3}{2}$

   (c) $\frac{11}{14} + \frac{17}{29}$

   (d) $\frac{2}{15} \times \frac{5}{12}$