Algebra 1 CC
Assignment #54
Zero and Negative Exponents
*** Optional**

1. Rewrite each of the following as equivalent expressions without the use of negative or zero exponents. Remember your order of operations.

   (a) 5^{-3} (b) 6^{0} (c) 2^{-5} (d) $4x^{0}$ (e) $(4x)^{0}$ (f) $x^{-2}y^{4}$

2. Which of the following is not equivalent to 2^{-3}?

   (1) $\frac{1}{2^3}$ (2) -6 (3) 0.125 (4) $\frac{1}{8}$

3. If $f(x)=12(2)^{x}$, then which of the following represents the value of $f(-2)$?

   (1) -48 (2) 6 (3) 3 (4) -4

*4. If the expression $8(x+11)^{0}-2x^{0}+6x$ is evaluated when $x=-1$, the result would be

   (1) 1 (2) 0 (3) 7 (4) 4

*5. The numerical expression $\frac{(5^3)^2}{(5^2)^4}$ is equivalent to

   (1) $\frac{1}{25}$ (2) 25 (3) 10 (4) $-\frac{1}{10}$

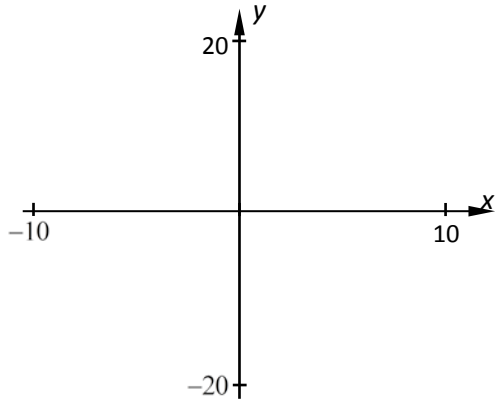
6. Write each of the following in the form ax^{n}, where *n* can be either a positive or negative integer.

   (a) $\frac{x^3}{x^8}$ (b) $\frac{6x}{2x^8}$ (c) $\frac{28x^6}{21x^2}$

R1. a. Using your calculator, graph the function $y = x^2 - 7x - 7$ and $y = -3x + 5$. Set your window according to the set of axes below.

b. What are the solutions to the equation $x^2 - 7x - 7 = 0$

c. What are the solutions to the equation $x^2 - 7x - 7 = -3x + 5$



*R2. Solve for *k*. $2x-5y=-9$; (3, *k*)

*R3. Given $A=\frac{1}{2}bh$

a. Solve for b

b. What is the value of h when $b = 6$ and $A = 25.2$?

1. (a) $\frac{1}{125}$ (b) 1 (c) $\frac{1}{32}$ (d) 4 (e) 1 (f) $\frac{y^4}{x^2}$

2. (2)

3. (3)

4. (2)

5. (1)

6. (a) x^{-5} (b) $3x^{-7}$ (c) $\frac{4}{3}x^4$

R1. a. You did it, or you didn't… ☺

b. about -1 and about 8

c. -2 and 6

R2. $k = 3$

R3. a) $b = \frac{2A}{h}$ Solve for b

b) $h = 8.4$