1 Let us build up the Rules of Power, so that they make sense. Never use a rule you cannot visualize and explain! What does x4 mean? How can you rewrite it in another (longer) way?

2 Expand inside the parentheses (x4)(x5).

3 How many x’s did you write in total?

4 What rule can we deduce about exponents on the same base being multiplied?

5 Expand inside the parenthesis .

6 Cancel an equal number of x’s in the numerator and the denominator. How many are left in the numerator? What value can x not be?

7 Write a rule for simplifying the same base with different exponents in the numerator and denominator.

8 What will happen if there are more x’s in the numerator? For example, can be rewritten as what power on x?

9 How else can you rewrite ? 1 over x to the what?

10 Write a rule for how to handle negative exponents.

11 What if the exponents had been equal? What must x0 mean/be?

12 How else can we write ?

13 Expand (x2)3 into sets of parentheses being multiplied. How many set of x’s are there and how many are in each?

14 What is the total number of x’s?

15 Summarize how to simplify a power to a power.

16 Describe in technical vocabulary what you think the point of this problem set it, including your three rules and the two cautions (negatives and zeros).