

INDEX CARD #6 (BACK & FRONT)

EXPONENTS

RULES:

MULTIPLYING – ADD THE EXPONENTS

DIVIDING – SUBTRACT THE EXPONENTS

POWER TO A POWER – MULTIPLY THE EXPONENTS

$X^0 = 1$

$$x^{-1} = \left(\frac{1}{x}\right)^1$$

SIMPLIFYING:

1. LARGE EXPONENT – IF NEGATIVE TAKE THE RECIPROCAL OF THE WHOLE FRACTION
NOW RAISED TO A POSITIVE POWER
– THEN RAISE EVERYTHING INSIDE TO THE POWER
2. NEGATIVE EXPONENTS? - IF YES THEY MOVE TO THE OPPOSITE POSITION
NUMERATOR → DENOMINATOR DENOMINATOR → NUMERATOR
3. SIMPLIFY NUMERATOR AND DENOMINATOR (COMBINE LIKE VARIABLES)
4. SIMPLIFY NUMERATOR TO DENOMINATOR – DIVIDE
REMEMBER THE DIFFERENCE GOES WHERE THE LARGER EXPONENT IS

RADICAL EQUATIONS

1. ISOLATE THE RADICAL
2. SQUARE BOTH SIDES — BE CAREFUL TO FOIL IF THERE IS A BINOMIAL
3. SOLVE
4. CHECK YOUR ANSWER

GRAPHING RADICALS

1. INPUT THE EQUATION INTO THE CALCULATOR
2. ZOOM 6 TO SEE THE GRAPH
3. LOOK IN THE TABLE TO SEE WHERE THE ERROR STARTS — THE FIRST NUMBER IN YOUR TABLE SHOULD BE THE ONE AFTER THE ERROR
4. USE NICE POINTS – NOT CRAZY DECIMALS
5. WRITE DOWN YOUR TABLE
6. LABEL YOUR GRAPH

DOMAIN ALGEBRAICALLY

1. DO YOU HAVE A FRACTION? YES SET DENOMINATOR = 0 SOLVE
ANSWER: $\{x|x \in \mathbb{R} \ x \neq \text{Answer}\}$
No....MOVE ON
2. DO YOU HAVE A RADICAL? YES....SET RADICAND ≥ 0 SOLVE
ANSWER: $\{x|x \geq \text{Answer}\}$

No.....MOVE ON

3. DO YOU HAVE BOTH?? YES.... SET RADICAND > 0 SOLVE

ANSWER: $\{x|x > \text{Answer}\}$

No.....MOVE ON

4. NONE OF THE ABOVE????? $\{\mathcal{R}\}$