

October 25, 2017

#1)  $S = \{(6, 4), (2, -7), (-3, 5), (4, 6), (7, 3)\}$

$D = \{6, 2, -3, 4, 7\}$

$R = \{4, -7, 5, 6, 3\}$

Oct 25-9:13 AM

#2)  $T = \{(-6, -4), (-4, -4), (1, -4), (2, 5)\}$

Yes!  $D = \{-6, -4, 1, 2\}$   
no repeats

|          |          |
|----------|----------|
| <u>D</u> | <u>R</u> |
| -6       | -4       |
| -4       | -4       |
| 1        | 5        |
| 2        | 5        |

Oct 25-9:16 AM

|          |          |
|----------|----------|
| <u>D</u> | <u>R</u> |
| -6       | 8        |
| 5        | 7        |
| 2        | 7        |
| 5        | 7        |

(5, 7)

Oct 25-9:18 AM

Addition:  $x^3 + x^2$   
*unlike terms!*

multiplication:  $x^3 \cdot x^2 = x^5$

Oct 25-9:30 AM

Law of Exponents

① Product Rule  
 $x^3 \cdot x^2 = x^{3+2} = x^5$

② Power Rule  
 $(x^3)^2 = x^{3 \cdot 2} = x^6$

③ Quotient Rule  
 $\frac{x^3}{x^2} = x^{3-2} = x^1 = x$

Oct 25-9:28 AM

Quotient Rule

①  $\frac{x^3}{x^2} = \frac{\cancel{x} \cdot \cancel{x} \cdot x}{\cancel{x} \cdot \cancel{x}} = x$

②  $\frac{x^2}{x^3} = \frac{\cancel{x} \cdot \cancel{x} \cdot 1}{\cancel{x} \cdot \cancel{x} \cdot x} = \frac{1}{x}$   
*using the meaning of exponents*

$\frac{x^2}{x^3} = x^{2-3} = x^{-1} = \frac{1}{x}$

$\frac{x^4}{x^9} = x^{4-9} = x^{-5} = \frac{1}{x^5}$

a)  $\frac{2^4}{2^4} = 2^{4-4} = 2^0 = 1$

b)  $\frac{2^4}{2^6} = 2^{4-6} = 2^{-2} = \frac{1}{2^2} = \frac{1}{4}$

Oct 25-9:33 AM

Negative Exponent Rule

a.)  $\frac{a^{-n}}{1}$   $\frac{1}{a^{+n}}$  } both become Positive

b.)  $\frac{1}{a^{-n}}$   $\frac{a^{+n}}{1}$

$\frac{1}{5^{-2}} = \frac{1}{1} \cdot 5^2 = \frac{1}{1} \cdot \frac{5^2}{1} = \frac{1}{5^2} \cdot 5^2 = \frac{25}{1} = 25$

apply neg. exp. rule

Oct 25-9:41 AM

$$\frac{x^{-6} y^2}{(x^2 y)^{-3}} = \frac{1 \cdot y^2}{x^6 (x^{-6} y^3)}$$

$$= \frac{1 \cdot y^2}{x^6 \cdot x^{-6} \cdot y^3}$$

$$= \frac{1 \cdot y^2 \cdot \cancel{x^6} \cdot y^3}{\cancel{x^6}}$$

$$= y^2 \cdot y^3$$

$$= \boxed{y^5}$$

Oct 25-9:46 AM