

October 27, 2017
 Quiz #6 Averages
 9:00 48
 10:00 68

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5.4
 #36)

	x	7
7	7x	49
x	x ²	7x

$x^2 + 7x + 7x + 49$
 $x^2 + 14x + 49$

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Laws of Exponents

① Product Rule
 $a^m \cdot a^n = a^{m+n}$

② Power Rule
 $(a^m)^n = a^{m \cdot n}$

③ Quotient Rule
 $\frac{a^m}{a^n} = a^{m-n}$

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3.a Negative Exponent Rule

① $\frac{a^{-n}}{1} = \frac{1}{a^n}$

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

$7y^{-1} = \frac{7}{1} \cdot \frac{1}{y} = \frac{7}{y}$

$(7y)^{-1} = \frac{1}{7y}$

$(7y)^{-2} = \frac{1}{(7y)^2} = \frac{1}{49y^2}$

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3.a Neg. Exp. Rule

② $\frac{1}{a^{-n}} = a^n$

• $\frac{1}{8^{-2}} = \frac{8^2}{1} = 64$

• $\frac{5}{x^{-3}} = \frac{5x^3}{1} = 5x^3$

• $\frac{4}{(2y)^{-3}} = \frac{4(2y)^3}{1} = 4 \cdot 8y^3 = 32y^3$

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$$\frac{x^{-2}y^3}{(xy)^{-4}} = \frac{y^3 \cdot (xy)^4}{x^2 \cdot y^3 \cdot x^4 \cdot y^4}$$

$$= \frac{x^4 y^7 x^2}{x^2} = x^2 y^7$$

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3.6 *Zero Exponent*

$$\frac{x^2}{x^2} = \frac{\boxed{x} \cdot \boxed{x}}{\boxed{x} \cdot \boxed{x}} = 1 \cdot 1 = \boxed{1}$$

meaning

$$\frac{x^2}{x^2} = x^{2-2} = x^0 = \boxed{x^0}$$

rule

So, $x^0 = 1$

$\text{☺}^0 = 1$
 $(946238942)^0 + 1 = 2$

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$$2m^2 \cdot 2m^3$$

#1

$$\left\{ \begin{array}{l} 2mm \cdot 2mmm \\ 2 \cdot 2 \cdot m \cdot m \cdot m \cdot m \cdot m \\ 4m^5 \end{array} \right.$$

#2

$$\left\{ \begin{array}{l} 2m^2 \cdot 2m^3 \\ 2^{1+1} \cdot m^{2+3} \\ 2^2 \cdot m^5 \\ 4m^5 \end{array} \right.$$

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