**Teacher** Chan  **Subject** Math 8 **Dates** 4/20/2020 to 4/24/2020 **Weekly Planner**

*Welcome to our Distance Learning Classroom!*Student Time Expectation this week: 1-2 hours total

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| **Content Area****& Materials** | **Learning Objectives** | **Tasks** | **Check-in Opportunities** | **Submission of Work for Grades** |
| Watch YouTube topics and examples on: 1. Exponents2. Product of Powers  Property3. Quotients of Powers  Property | Students will learn six rules of exponents limited to non-negative integer exponents | * Complete Digits 3-3, 3-4, 3-5 with a score of at least 70% on each
* Log onto: **Pearsonrealize.com**
* **Username. xxxxxxx**tusd(x = student ID)
* **Password: Digits 30**
* Submit upon completion.
 | * Email

Students need to check in at least ONCE during this week via email. Make sure Mr. Chan can see your full name in all forms of contact. | Digits assignments are submitted online.Due: 4-28-2020 (Tue.)orAll papers must include:FIRST NAMELAST NAMEWEEK 1PERIOD \_\_MATH/CHANPapers may be submitted by scanning/taking a clear picture and sending to: Mr. Chan via email: **bchan@tusd.net**DUE 4-28-2020 (Tue.) |
| Study tutorial and examples on YouTube links of your choice on Exponents and Powers  | OPTION 2: *Paper-Only** Study the examples on handout
* Simplify all problems on the back of week 1 handout. Write neatly and in pencil dark enough to be scanned and email to teacher: bchan@tusd.net
* Explain select problems to parents.
* Check-in with teacher at least once this week during office hours via email.
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| **Scaffolds & Supports** |  | <http://www.pearsonrealize.com>[www.mobymax.com](file:///C%3A%5CUsers%5CElaine%20Hsiao%5CDocuments%5CPrivate%5CJOB%20stuff%5CTEACHING%5C2019-2020%5CSCHOOL%20CLOSURE%5Cwww.mobymax.com)[www.khanacademy.org](https://www.khanacademy.org/) | **Teacher Contact:**bchan@tusd.net (Mr. Chan)(PLEASE include full name of student in message) |
| **Teacher Office Hours**M-F 9.00am - 11:00am | **Monday***Email: bchan@tusd.net* 9:00-11:00 am | **Tuesday***Email: bchan@tusd.net* 9:00-11:00 am | **Wednesday***Email: bchan@tusd.net* 9:00-11:00 am | **Thursday***Email: bchan@tusd.net* 9:00-11:00 am | **Friday***Email: bchan@tusd.net* 9:00-11:00 am |

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| *what* | *description* | *examples* |
| Exponents | Using exponents is an efficient way of writing expressions that are repeated multiplications of a base factor. | $$3^{3}=3×3×3=27$$$$5^{4}=5×5×5×5=625$$$$2^{8}=2×2×2×2×2×2×2×2=256$$$$y^{5}=y×y×y×y×y$$ |
| Product of Powers Property | To multiply powers with the same base, add the exponents. | $$5^{7}×5^{8}=5^{7+8}=5^{15}$$$$9^{4}×9^{7}=9^{4+7}=9^{11}$$$$x^{11}×x^{2}=x^{11+2}=x^{13}$$$$m×m^{5}=m^{1+5}=m^{6}$$ |
| Power of a Product Property | To find the power of a product, find the power of each factor and multiply. | ($3×5)^{2}=3^{2}×5^{2}=9×25=225 or (15)^{2}$($3x)^{4}=3x×3x×3x×3x=3^{4}×x^{4}=81x^{4}$($2xy)^{5}=2xy×2xy×2xy×2xy×2xy=2^{5}×x^{5}×y^{5}=2^{5}x^{5}y^{5}$ |
| Power of a Power Property | To find the power of a power, multiply the exponents. | $$(5^{3})^{4}=5^{3×4}=5^{12}$$$$(21^{9})^{2}=21^{9×2}=21^{18}$$$$(a^{8})^{7}=a^{8×7}=a^{56}$$$$(x^{5})^{11}=x^{5×11}=x^{55}$$ |
| Quotients of Powers Property | To divide powers with the same base, subtract the exponents. | $\frac{4^{5}}{4^{3}}=4^{5-3}=4^{2}$;$\frac{10^{9}}{10^{6}}=10^{9-6}=10^{3}$ ;$\frac{8^{23}}{8^{16}}=8^{23-16}=8^{7}$$\frac{10x^{11}}{5x^{8}}=\frac{10}{5}x^{11-8}=2x^{3}$; $\frac{a^{7}b^{8}c^{9}}{a^{2}b^{7}c^{}}=a^{7-2}b^{8-7}c^{9-1}=a^{5}bc^{8}$  |
| Powers of a Quotient Property | To find the power of a quotient, find the power of each factor and divide. | $\left(\frac{2}{5}\right)^{8}= \frac{2^{8}}{5^{8}}$; $\left(\frac{5x}{y}\right)^{4}= \frac{5^{4}x^{4}}{y^{4}}$$\left(\frac{5x^{6}y^{9}}{10x^{3}y^{8}}\right)^{4}= \left(\frac{1}{2}x^{6-3}y^{9-8}\right)^{4}=\left(\frac{1}{2}x^{3}y\right)^{4}=(\frac{1}{2})^{4}x^{12}y^{4} or \frac{1}{2^{4}}x^{12}y^{4}$  |
| To the Zeroth Power | Any non-zero base raised to the power of zero is equal to 1. | $$(2^{3}x^{9}y^{8})^{0}=1$$$$(5^{3})^{0}=5^{0}=1$$$$(5^{0})^{6}=1^{6}=1$$ |

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FULL NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PERIOD \_\_\_\_\_ MATH-CHAN

(1) You must check in with Mr. Chan at least once between April 20 and April 24. See weekly planner for your options and times to contact teacher.

(2) **Simplify** the following expressions. Write neatly. See weekly planner for your options to submit completed work. Messy work will not be accepted.

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| 1. $x^{3}×x^{5}=$
 | 1. $\frac{x^{16}}{x^{13}}=$
 | 1. $(x^{3})^{2}×(x^{6})^{11}=$
 |
| 1. $(xy)^{13}=$
 | 1. $\frac{x^{3}}{x}=$
 | 1. $(4x^{5}y^{2})^{3}=$
 |
| 1. $(x^{3})^{7}=$
 | 1. $\frac{x^{7}y^{5}}{xy^{3}}=$
 | 1. $(x^{2}y^{5}z^{4})^{0}=$
 |
| 1. $x^{4}×x^{7}=$
 | 1. $\frac{(-1)^{11}}{(-1)^{4}}=$
 | 1. $\frac{20n^{6}}{4n^{3}}=$
 |
| 1. $(2x)^{5}=$
 | 1. $(2x^{3})^{0}=$
 | 1. $\frac{5^{5}×4^{7}}{5^{2}×4^{5}}=$
 |
| 1. $(10x^{4})^{11}=$
 | 1. $\frac{(23)^{1}}{(23)^{-2}}=$
 | 1. $(x^{2})^{6}×(x^{2})^{2}=$
 |
| 1. $(4x)^{2}×(x^{3})^{5}=$
 | 1. $\frac{m^{15}}{m^{15}}=$
 | 1. $(5x^{7})^{3}=$
 |
| 1. $(x^{3}y^{2})^{5}=$
 | 1. $(12^{2}x^{3}y^{8})^{0}=$
 | 1. $\frac{18x^{3}}{6x}=$
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