

MATH 8: Week of April 27

- Go through the slides (notes) and work through the examples on a separate piece of paper.
- Do the given practice problems (again, on a separate piece of paper).
- Check your answers with the key given (last slide).
- Take a photo or scan in your work and submit it in Google Classroom. If you have questions or would like feedback on your work, add that as a comment with your submitted work.
- The other option for turn in is to send it in on Monday when the new packet is available.
- Check your school email/google calendar for online help sessions via Zoom.

Day 1: Slide 2
Day 2: Slide 3
Day 3: Slides 4-10
Answers on Slide 11

Day 1

L3-E More Practice Problems: Simplify

- | | | |
|---------------------------------|---------------------------------|----------------------------|
| 1. x^3x^2 | 2. $(y^5)^2$ | 3. $(pq)^5$ |
| 4. $(4x^5)^3$ | 5. $(w^2y^4z^6)(w^5y^3z)$ | 6. $(2a^6b)(3a^3b^3)$ |
| 7. $(5gh^2)^2$ | 8. $(9x^4y^5)(-2x^2y^7)$ | 9. $(0.5f^2d^9)^3$ |
| 14. $(3x^2)^3(4x^5)^2$ | 15. $(-4y^5w^2)^2(2y^4)^3$ | 16. $(5p^3)(5p^2)^3$ |
| 17. $(2x^2)^3(3x^4)^2(-2x^3)^3$ | 18. $(-2y^2)(-3xy^4)^2(5x^6)^2$ | 19. $(4a^2b)^3(5a^4b^5)^2$ |

End Day 1

Day 2 L3-F More Practice Problems: Simplify

- | | | |
|---|---|---|
| 1. $\frac{8^{12}}{8^5}$ | 2. $\frac{x^5}{x^2}$ | 3. $\frac{a^6b^9}{a^3b^5}$ |
| 4. $\frac{2w^5y^4}{10wy^2}$ | 5. $\left(\frac{d^2}{g^3}\right)^5$ | 6. $\left(\frac{2y^3}{3}\right)^3$ |
| 7. $(4yh^2)^0$ | 8. $\left(\frac{5x^{11}}{3w^{-4}}\right)^0$ | 9. 5^{-2} |
| 10. 2^{-4} | 11. $\frac{k^{-3}m^2}{n^{-7}}$ | 12. $7p^{-2}q^{-5}$ |
| 16. $\frac{-3m^5}{m^{11}}$ | 17. $\frac{24x^7y^{-4}}{4x^{-3}y^2}$ | 18. $\frac{10p^2w^6}{6p^{-2}w^6}$ |
| 19. $\left(\frac{r^{-2}t^0}{n^{-5}}\right)^3$ | 20. $\left(\frac{6y^2}{z^{-3}}\right)^2$ | 21. $\left(\frac{2q^{-2}w^3}{3x^{-4}y^5}\right)^{-1}$ |

End Day 2

Day 3: Lesson 3-G notes

Scientific Notation

Target:

Express numbers in scientific notation and standard notation.

Scientific notation is an exponential expression using a power of 10 where and P is an integer.

$$N \times 10^P$$

Scientific Notation



Good to Know!

- ✓ Scientific notation uses powers of 10.
- ✓ Each time you multiply a decimal value by 10, the decimal moves one to the right.
- ✓ Each time you divide by 10, the decimal moves one to the left.

Multiply each time by 10	4.5	$\times 10$	4.5	Divide each time by 10
	45	$\times 10$	0.45	
	450	$\times 10$	0.045	
	4500	$\times 10$	0.0045	
	45000	$\times 10$	0.00045	
	$= 4.5 \times 10^4$		$= 4.5 \times 10^{-4}$	

Example 1

Convert 52,000 to scientific notation.

Move the decimal point to the **left** until it creates an absolute value between 1 and 10.

$$52,000 = 5.2000$$

Count how many spaces the decimal was moved. This is the P value.

Decimal moved 4 spaces left

$$52,000 = 5.2 \times 10^4$$

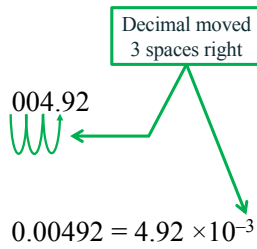
Example 2

Convert 0.00492 to scientific notation.

Move the decimal point to the **right** until it creates an absolute value between 1 and 10.

Count how many spaces the decimal was moved.

$$0.00492 = 4.92$$



$$0.00492 = 4.92 \times 10^{-3}$$

Example 3

Write each of the following numbers in standard notation.

a. 3.8×10^5

Move the decimal right 5 spaces.

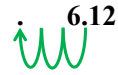


Fill in empty spaces with 0s.

380,000

b. 6.12×10^{-3}

Move the decimal left 3 spaces.



Fill in empty spaces with 0s.

0.00612

Example 4

Four truck drivers kept track of their mileage for the year. The chart below shows the number of miles each one drove. List the drivers in order from the least mileage driven to the greatest mileage driven.

Name	Mileage	Standard Notation
Sam	5.41×10^4	54,100
Tom	3×10^4	30,000
Pete	25,000	25,000
Juan	1.1×10^5	110,000

Turn all numbers into standard notation to solve.

The drivers from least to greatest: **Pete, Tom, Sam, Juan**

Day 3

L3-G Practice Problems:

Write each large or small number in scientific notation.

1. 0.00065

2. 2,900

3. 3,000,000,000,000

4. 0.00871

5. 0.00000004

6. 793,000,000

7. 185

8. 0.002034

9. 670,000

Write the following numbers in standard notation.

10. 4.3×10^6

11. 5.2×10^{-2}

12. 7.09×10^3

13. 6×10^{-5}

14. 8.529×10^7

15. 3.48×10^{-4}

16. 6.3×10^{-4}

17. 1.34×10^5

18. 1.02×10^{-2}

End Day 3

Answer Page

1. 6.5×10^{-4}	16. 7.1×10^{-3}	1. x^5
2. 2.9×10^3	17. $\frac{6x^{10}}{y^5}$	2. y^{10}
3. 3×10^{12}	18. $\frac{3}{5y^5}$	3. p^5q^5
4. 8.71×10^{-3}	19. $\frac{16}{11}$	4. $64x^{15}$
5. 4×10^{-8}	20. $\frac{3}{36y^4z^2}$	5. $w^7y^2z^2$
6. 7.93×10^8	21. $\frac{2x^4w^3}{3y^2z^5}$	6. $6a^8b^4$
7. 1.85×10^{-2}		7. $25g^4h^4$
8. 2.034×10^{-3}		8. $-18x^9y^{12}$
9. 6.7×10^5		9. $0.125d^{22}f^9$
		10. $1600a^{14}b^{13}$
		11. $\frac{8}{25}$
		12. $\frac{27}{8y^9}$
		13. $\frac{4}{5}$
		14. $432x^{18}$
		15. $128x^9y^{22}$
		16. $625p^8$
		17. $-576x^{23}$
		18. $-450x^{14}y^{10}$
		19. $1600a^{14}b^{13}$
		20. $36y^4z^2$
		21. $\frac{2x^4w^3}{3y^2z^5}$

MATH 8: FINAL SLIDE for this week!