

NAME: _____

Problems of the Week

FSA Countdown Week 1 - PA

1.

Sort the expressions into the appropriate bins based on their values compared to 9. 8.EE.1

Less than 9

Equal to 9

Greater than 9

$$\frac{9^{10}}{9^{11}}$$

$$\frac{9^{11}}{9^{10}}$$

$$3^6 \cdot 3^{-3}$$

$$(3^2 \cdot 3)^0$$

$$(-3)^2$$

$$\frac{3^{-2}}{3^{-4}}$$

2.

The table shows the diameters, in kilometers, of the five planets in the solar system that are farther from the sun than Earth. Write the five planets in order from largest to smallest planet by diameter. 8.EE.3

	Planet	Diameter (km)
Largest		
Smallest		

Planet	Diameter (km)
Jupiter	1.43×10^5
Mars	6.79×10^3
Neptune	4.95×10^4
Saturn	1.21×10^5
Uranus	5.11×10^4

3. The metric system uses prefixes to describe different lengths. 8.EE.1

Part A: Complete the table by writing the correct power of 10.

Metric Unit	Number of Meters	
	Standard Form	Power of 10
megameter	1,000,000	
kilometer	1,000	
meter	1	
millimeter	0.001	
micrometer	0.000001	

10^0	10^1	10^2
10^3	10^4	10^5
10^6	10^7	10^{-1}
10^{-2}	10^{-3}	10^{-5}
10^{-4}	10^{-6}	10^{-7}

Part B: In the table, look for a pattern in the powers of 10. Describe the relationship between the exponents and place value.

4. A jumping spider that is 3^{-4} meters long jumps 3^{-1} meters high. About how many times its body length did the spider jump? Explain your reasoning. 8.EE.1