

Name \_\_\_\_\_

Common Core Standard 8.EE.A.4 – Expressions and Equations

- A four-man hot-air balloon is  $13.3 \times 10^7$  cubic inches in volume. A twelve-man hot-air balloon has the volume of  $2.4 \times 10^8$  cubic inches. Find the sum of both balloons' volume. Express the answer in scientific notation. Be sure to explain your answer.

- A  $1.07 \times 10^8$  cubic inches  
B  $3.7 \times 10^8$  cubic inches  
C  $10^8$  cubic inches  
D  $15.7 \times 10^8$  cubic inches

Common Core Standard 8.EE.A.4 – Expressions and Equations

- Individual strands of hair range in thickness from  $1/1500$  to  $1/500$  of an inch in diameter, depending on the properties of the hair. Find the difference between the diameters of the thickest and thinnest hairs. Express the answer in scientific notation. Be sure to show your work.

- A  $1.3 \times 10^{-3}$  inches  
B  $2.3 \times 10^{-2}$  inches  
C  $3.2 \times 10^{-4}$  inches  
D  $2.1 \times 10^{-2}$  inches

Common Core Standard 8.EE.A.4 – Expressions and Equations

- The single gelatin particle measures 45 microns, while a yeast cell is approximately 28 microns. By how much is a particle of gelatin larger than a yeast cell? Write the answer in inches, if there are 25400 microns in one inch. Express the answer in scientific notation. Be sure to show your work.

- A  $2.3 \times 10^{-3}$  inches  
B  $5.4 \times 10^{-2}$  inches  
C  $3.8 \times 10^{-5}$  inches  
D  $6.7 \times 10^{-4}$  inches

Name \_\_\_\_\_

Common Core Standard 8.EE.A.4 – Expressions and Equations

- Scientists found that the body of a 155 lb person consists of  $9.3 \times 10^{-3}$  lbs of iron. In the bodies of 3300 such people, how much iron is present? Be sure to explain your answer.

- A 12.4 lbs  
B 3.65 lbs  
C 23 lbs  
D 30.69 lbs

Common Core Standard 8.EE.A.4 – Expressions and Equations

- The surface area of the Earth is 510 million  $\text{km}^2$ . What is the surface area of Saturn, if its surface area is 84 times larger than Earth? Express the answer in scientific notation. Be sure to show your work.

- A  $4.3 \times 10^9 \text{ km}^2$   
B  $4.27 \times 10^8 \text{ km}^2$   
C  $4.28 \times 10^{10} \text{ km}^2$   
D  $42.8 \times 10^6 \text{ km}^2$

Common Core Standard 8.EE.A.4 – Expressions and Equations

- The average raindrop is about  $3.0 \times 10^{-3}$  ounces. How many raindrops are in a gallon of water, if a gallon has 128 ounces? Be sure to show your work.

- A 5467 drops in a gallon  
B 42667 drops in a gallon  
C 17667 drops in a gallon  
D 115200 drops in a gallon