Scientific Notation

Write each number in Scientific Notation.

1. Neptune's distance to the sun is 4,500,000,000 kilometers.

2. The distance from the Earth to the moon is 384,000 kilometers.

3. A typical red blood cell has a diameter of 0.0000007 meters.

4. A typical platelet has a diameter of 0.00000233 meters.

Example 1: $37,000 = 3.7 \times 10^4$	**Example 2:** $0.00391 = 3.91 \times 10^{-3}$

Write each number in Standard Notation.

1. $1.4 \cdot 10^5$ **2.** $3.24 \bullet 10^2$

3. $3.24 \cdot 10^{-2}$ **4.** $2.1 \cdot 10^{-6}$

5. $5.59 \cdot 10^5$ **6.** $7.113 \cdot 10^6$

7. The maximum length of a particle that can fit through a surgical mask is 1×10^{-4} millimeters.

8. Ten thousand pencils laid end to end would be 1.87×10^6 mm long.

Write in scientific notation

9. 0.00007   10. 524,000,000

11. 6,500,000   12. 0.00000003

13. 560   14. 6,098,000

15. Protons and neutrons are the most massive particles in the nucleus of an atom. If a nucleus were the size of an average grape, it would have a mass greater than 9 million metric tons. A metric ton is 1000kg. What would the mass of a grape-size nucleus be in kg?

16. The distance from earth to the Moon is about 384,000 km. Suppose an astronaut travels this distance a total of 250 times. How many kilometers does the astronaut travel?

17. A penny is 1.55 mm thick. How tall would a stack of a million pennies be?

18. The maximum length of a particle that can fit through a surgical mask is $1 \cdot 10^{-4}$ millimeters. The average length of a dust mite is approximately $1.25 \cdot 10^{-1}$ millimeters. Which is longer, the largest particle that can fit through a surgical mask or a dust mite of average length?