

1. Sean moved to a city that is 1.1×10^3 miles from his grandparents' city. He then moved 200 miles closer to his grandparents' city. What is the new distance written in scientific notation?

- A 1.1×10^1
- B 9×10^2
- C 1.3×10^3
- D 9×10^3

2. A star's color gives an indication of its temperature and age. The chart below shows seven types of stars and the lowest recorded temperature of each type.

Type	Lowest Temperature (in Fahrenheit degrees)	Color
A	1.35×10^4	Blue-White
B	2.08×10^4	Blue
F	1.08×10^4	White
G	9.0×10^3	Yellow
K	6.3×10^3	Orange
M	5.4×10^3	Red
O	4.5×10^4	Blue

What type of star has the lowest temperature?

- A B
- B G
- C M
- D O

3. As Uranus orbits the Sun, the distance from its closest point to the Sun, or its *perihelion*, is 1703 million miles. The distance from its farthest point, or its *aphelion* to the Sun, is 1.866×10^9 miles. What is the difference in these distances?

- A 1.63×10^8 miles
- B 163×10^8 miles
- C 1.701×10^9 miles
- D 1701×10^9 miles

4. The brightest star in the Milky Way galaxy, Pistol, was discovered in 1997. Pistol is ten million times brighter than the Sun. What is the exponent associated with base 10 when ten million is written in scientific notation?

- A 6
- B 7
- C 10
- D 10,000,000

5. A store claims it has served more than 3 billion customers. What is 3 billion written in scientific notation?

- A 3.0×10^6
- B 3.0×10^9
- C 3.0×10^{10}
- D 3.0×10^{12}

6. Which of the following is equal to 4.38×10^{-5} ?

- A 0.00000438
- B 0.0000438
- C 438,000
- D 43,800,000

7. The radius of Earth is approximately 6.37×10^6 meters.

Which number is equivalent to 6.37×10^6 ?

- A 637,000
- B 6,370,000
- C 63,700,000
- D 637,000,000

8. The minimum distance from Neptune to Earth is about 2.68 billion miles. What is 2.68 billion written in scientific notation?

- A 2.68×10^6
- B 2.68×10^7
- C 2.68×10^9
- D 2.68×10^{10}

9. A unit of measure called the grain is used to measure the weight of very small items. One grain is 0.002285 ounce. Which expression shows the number of ounces in a grain in scientific notation?

- A 2.285×10^2
- B 2.285×10^{-2}
- C 2.285×10^3
- D 2.285×10^{-3}

10. The approximate distance between the Sun and the planet Jupiter is 778 million kilometers. What is this distance expressed in scientific notation?

- A** 778×10^6 km
- B** 77.8×10^7 km
- C** 7.78×10^8 km
- D** 7.78×10^6 km

11. One year, the budget for the United States government was 2.7 trillion dollars. Which expression shows 2.7 trillion written in scientific notation?

- A** 0.27×10^{13}
- B** 2.7×10^{10}
- C** 2.7×10^{12}
- D** 27×10^{11}

12. The Moon is 3.844×10^5 km from Earth. If a spaceship were traveling from Earth to the Moon at an average speed of 5,400 km per hour, approximately how many hours would it take the spaceship to reach the Moon?

- A** 7.1 hours
- B** 71 hours
- C** 710 hours
- D** 7,100 hours

13. Our galaxy has about one hundred billion stars. How is one hundred billion written in scientific notation?

- A 1.0×10^9
- B 1.0×10^{10}
- C 1.0×10^{11}
- D 1.0×10^{14}

14. Which expresses the operation below in scientific notation?

0.0016 divided by 400,000

- A 4×10^{-9}
- B 4×10^{-8}
- C 4×10^{-7}
- D 4×10^2

15. What is 4.5×10^7 multiplied by 5.4×10^3 , in scientific notation?

- A 2.4×10^4
- B 2.4×10^{10}
- C 2.4×10^{11}
- D 2.4×10^{21}

16. The numbers of paid subscriptions for four magazine types are shown in the table below.

Magazine Type	Circulation
Business	9.5×10^5
Family	5.0×10^6
Style	9.0×10^5
Teen	2.4×10^6

Which of the following lists these magazine types by circulation from greatest to least?

- A Business, Style, Family, Teen
- B Family, Teen, Business, Style
- C Style, Business, Teen, Family
- D Teen, Family, Style, Business