



Name: _____

1-8 Additional Practice

Scan for
Multimedia**Leveled Practice** In 1–3, use powers of 10 to estimate quantities.

1. Use a single digit times a power of 10 to estimate the number 0.000007328.

Rounded to the nearest millionth, the

number is about .

Written as the product of a single digit and a

power of ten, this number is $\times 10^{\text{$.

2. A city has a population of 38,802,500 people. Estimate this population to the nearest ten million.

Rounded to the nearest ten million, the

population is about .

Written as the product of a single digit

and a power of ten, this number is

 $\times 10^{\text{$.

3. The mass of Planet X is 8.46×10^{22} kilograms. The mass of Planet Y is 5,028,000,000,000,000,000 kilograms. How many times greater is the mass of Planet X than the mass of Planet Y?

The mass of Planet Y is about \times kilograms.The mass of Planet X is about \times kilograms.The mass of Planet X is about times greater than that of Planet Y.

4. According to a survey, the residents of Country A have approximately 179,300,000 dogs and cats as pets. The same survey reports there are about 5.01×10^7 dogs and cats as pets in Country B. About how many times greater is the number of dogs and cats in Country A than Country B?

5. Estimate 0.00792398 to the nearest thousandth. Express your answer as a single digit times a power of ten.

6. Which number has the greater value, 7×10^{-9} or 6×10^{-4} ?

7. On a certain planet, Continent X has an area of 6.23×10^6 square miles and Continent Y has an area of 63,600,000 square miles. How many times larger is Continent Y than Continent X?

8. Dion made \$67,785 last year. Express this number as a single digit times a power of ten rounded to the nearest ten thousand.
9. A rectangle has length 8×10^4 millimeters and width 4×10^4 millimeters. How many times greater is the rectangle's length than width?

10. **Construct Arguments** Tara incorrectly estimates 36,591,000,000 meters as 4×10^6 meters. Is she correct? Explain.

11. **Higher Order Thinking** An astronomical unit (AU) is equal to the average distance from the Sun to Earth.

a. An astronomical unit is about 92,955,807 miles. Use a single digit times a power of ten to estimate this value to the nearest ten million miles.

b. Venus is about 7.2×10^{-1} AU from the Sun. Mars is about 1.5 AU from the Sun. Which planet is closest to Earth?

Assessment Practice

12. The oldest rocks on Earth are about 4×10^9 years old. For which of these ages could this be an approximation?

- Ⓐ 0.000000004 years
- Ⓑ 3.45×10^9 years
- Ⓒ 3.349999999×10^9 years
- Ⓓ 4,149,000,000 years

13. Express 0.000000648 as a single digit times a power of ten rounded to the nearest ten millionth.