

Dividing Decimals by 10, 100, or 1,000

You can use place-value patterns when you divide a decimal by 10, 100, or 1,000.

Sanjai has 27.5 lb of clay. If he uses the clay to make 10 bowls, how much clay will he use for each bowl? What if he makes 100 bowls from the clay? What if he makes 1,000 bowls?

Dividing a number by 10 moves the decimal point one place to the left.

$$27.5 \div 10 = 2.75$$

Dividing a number by 100 moves the decimal point two places to the left.

$$27.5 \div 100 = 0.275$$

Dividing a number by 1,000 moves the decimal point three places to the left.

$$27.5 \div 1,000 = 0.0275$$

Sanjai will use 2.75 lb for each of 10 bowls, 0.275 lb for each of 100 bowls, and 0.0275 lb for each of 1,000 bowls.

Remember: When you divide a number by 10, 100, or 1,000, your quotient will be smaller than that number.

For questions 1 through 6, find the quotient. Use mental math.

1. $16.4 \div 10$

2. $38.92 \div 100$

3. $297.1 \div 100$

4. $540.9 \div 10$

5. $41.628 \div 1,000$

6. $0.33 \div 10$

7. The city has a section of land 3,694.7 ft long. The city wants to make 100 equal-sized gardens with this land. How long will each garden be? _____

8. Connor divided 143.89 by 100. He said his answer was 14.389. Is this a reasonable answer?
