

1. Use a place value chart and arrows to show how the value of each digit changes:

a. $6.671 \times 100 =$ _____

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b. $684 \div 1,000 =$ _____

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2. A student used his place value chart to show a number. After the teacher instructed him to multiply his number by 10, the chart showed 3,200.4. What was his original number? Draw a picture of what the place value chart looked like at first (if you need it). Draw a picture of what the place value chart looked like at first. Explain how you determined what the original number was.

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3. A student used his place value chart to show a number. After the teacher instructed him to divide his number by 100, the chart showed 28.003. What was his original number? Draw a picture of what the place value chart looked like at first (if you need it). Explain how you determined what the original number was.

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4. Solve the following problems without a calculator:

a. $54,000 \times 10 =$ _____

b. $2,000 \div 100 =$ _____

c. $0.13 \times 10 =$ _____

d. $8.7 \div 10 =$ _____

e. $3.12 \times 1,000 =$ _____

f. $4,031.2 \div 100 =$ _____

5. Rewrite the following problems so that it is easier to solve mentally. Then solve your new problem mentally.

a. $451 \times 0.1 \rightarrow$ _____

b. $84 \div 0.01 \rightarrow$ _____

c. $6,300 \div 0.1 \rightarrow$ _____

d. $4.5 \div 0.001 \rightarrow$ _____

e. $57.8 \times 0.01 \rightarrow$ _____

f. $239.4 \times 0.001 \rightarrow$ _____

6. Evaluate the following problem. Rewrite if necessary.

a. $0.873 \times 10^3 =$ _____

b. $0.61 \times 10^1 =$ _____

c. $12.38 \div 10^2 =$ _____

d. $36 \div 10^3 =$ _____

e. $6.94 \times 10^2 =$ _____

7. A manufacturer made 7,234 boxes of coffee stirrers. Each box contains 1,000 stirrers. How many stirrers did they make?

8. A microscope has a setting that magnifies an object so that it appears 100 times as large when viewed through the eyepiece. If a tiny insect is 0.095 cm long, how long will the insect appear in centimeters through the microscope?

9. Sarah has 400 pennies and 30 dimes. How much money does she have?