Multiply and Divide Decimals by Powers of 10

Name: _____

Grade 5 · Multiply and divide decimals by 10, 100 and 1,000

How it works

Multiplying by 10 moves every digit **one place to the left**, so the number is 10 times as large. Dividing by 10 moves every digit **one place to the right**.

For 100 (10^2) move two places. For 1,000 (10^3) move three. Fill any empty place with a zero.

4.25 × 10 = 42.5
4.25 × 100 = 425
4.25 × 1,000 = 4,250
42.5 ÷ 10 = 4.25
42.5 ÷ 100 = 0.425

A. Multiply.

1. **0.6 × 10 =** _____
2. **2.75 × 10 =** _____
3. **0.48 × 100 =** _____
4. **3.9 × 10^2 =** _____
5. **0.052 × 1,000 =** _____
6. **7.1 × 10^3 =** _____
7. **14.06 × 10^2 =** _____
8. **0.305 × 10 =** _____

B. Divide.

1. **45 ÷ 10 =** _____
2. **7.2 ÷ 10 =** _____
3. **380 ÷ 100 =** _____
4. **6 ÷ 10^2 =** _____
5. **2,500 ÷ 1,000 =** _____
6. **91.4 ÷ 10^2 =** _____
7. **0.8 ÷ 10 =** _____
8. **136 ÷ 10^3 =** _____

C. Write the missing number: 10, 100 or 1,000.

1. **3.4 ×** _____ **= 340**
2. **0.07 ×** _____ **= 70**
3. **52 ÷** _____ **= 0.52**
4. **6.15 ×** _____ **= 61.5**
5. **480 ÷** _____ **= 0.48**
6. **9.3 ÷** _____ **= 0.93**

D. Solve.

1. A paper clip weighs 1.2 grams. How much do 1,000 paper clips weigh? _____
2. A stack of 100 sheets of paper is 1.1 cm tall. How thick is one sheet? _____
3. What number is 10 times as much as 0.08? _____
4. What number is one tenth of 0.5? _____

Multiply and Divide Decimals by Powers of 10 (Answer Key)

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How it works

Multiplying by 10 moves every digit **one place to the left**, so the number is 10 times as large. Dividing by 10 moves every digit **one place to the right**.

For 100 (10^2) move two places. For 1,000 (10^3) move three. Fill any empty place with a zero.

4.25 × 10 = 42.5
4.25 × 100 = 425
4.25 × 1,000 = 4,250
42.5 ÷ 10 = 4.25
42.5 ÷ 100 = 0.425

A. Multiply.

1. $0.6 \times 10 =$ **6**
2. $2.75 \times 10 =$ **27.5**
3. $0.48 \times 100 =$ **48**
4. $3.9 \times 10^2 =$ **390**
5. $0.052 \times 1{,}000 =$ **52**
6. $7.1 \times 10^3 =$ **7,100**
7. $14.06 \times 10^2 =$ **1,406**
8. $0.305 \times 10 =$ **3.05**

B. Divide.

1. $45 \div 10 =$ **4.5**
2. $7.2 \div 10 =$ **0.72**
3. $380 \div 100 =$ **3.8**
4. $6 \div 10^2 =$ **0.06**
5. $2{,}500 \div 1{,}000 =$ **2.5**
6. $91.4 \div 10^2 =$ **0.914**
7. $0.8 \div 10 =$ **0.08**
8. $136 \div 10^3 =$ **0.136**

C. Write the missing number: 10, 100 or 1,000.

1. $3.4 \times$ **100** $= 340$
2. $0.07 \times$ **1,000** $= 70$
3. $52 \div$ **100** $= 0.52$
4. $6.15 \times$ **10** $= 61.5$
5. $480 \div$ **1,000** $= 0.48$
6. $9.3 \div$ **10** $= 0.93$

D. Solve.

1. A paper clip weighs 1.2 grams. How much do 1,000 paper clips weigh? **1,200 grams**
2. A stack of 100 sheets of paper is 1.1 cm tall. How thick is one sheet? **0.011 cm**
3. What number is 10 times as much as 0.08? **0.8**
4. What number is one tenth of 0.5? **0.05**