

# Dividing by 10, 100 or 1,000

## Where Answers Are Decimals

When dividing a number by 10, 100 or 1,000 the value of each digit is divided sometimes giving a decimal answer.

$$3020 \div 10 = 302$$

$$3020 \div 100 = 30.2$$

$$3020 \div 1000 = 3.02$$

Each digit moves the necessary number of place to the right because dividing by 10 decreases the number.

	3	0	2	0	.	0	
÷ 10 →	3	0	2	.			
÷ 100 →	3	0	2	0	.	0	
÷ 1000 →	3	0	2	0	.	0	2

### Remember:

1. Keep the digits together.  
Don't let any 0's jump in!

$$34 \div 10 = 3\text{X}4$$

2. Round to check:

$$340 \div 100 = 3.4$$

$$\text{use } 300 \div 100 = 3$$

3. Use the inverse to check:

$$3.4 \times 1000 = 3400$$

# Multiplying Decimals by 10, 100 or 1000

When multiplying a decimal number by 10, 100 or 1000, the value of each digit is multiplied.

$$3.02 \times 10 = 30.2$$

$$3.02 \times 100 = 302$$

$$3.02 \times 1000 = 3020$$

Each digit moves the necessary number of places to the left because multiplying by 10, 100 or 1000 increases the number.

			3	.	0	2	
		3	0	.	2		← x 10
		3	.	0	2		
	3	0	2	.			← x 100
			3	.	0	2	
3	0	2	0	.			← x 1000

### Remember:

1. Keep the digits together.  
Don't let any 0s jump in!

$$3.02 \times 100 = 300.2 \text{ X}$$

$$3.02 \times 100 = 302 \text{ ✓}$$

2. Round to check:

$$3.02 \times 1000 = 3020$$

$$\text{use } 3 \times 1000 = 3000$$