Place Value

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Millions | Hundred Thousands | Ten Thousands | Thousands | Hundreds | Tens | Ones |  Decimal Point \_\_\_\_\_\_\_ | Tenths | Hundredths | Thousandths | Ten-Thousandths | Hundred-Thousandths | Millionths |
| Order |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**1-6** - Order the decimals least to greatest in the table above.

254.001, 23456.789101, 58.79, 2.9, 88410.02037, 4799.4321

**7-9** - Order the decimals least to greatest in the table above.

7.2, 97.44, 8.4

**Adding & Subtracting Decimals**

HOW TO ADD AND SUBTRACT DECIMALS

When adding and subtracting decimals **always line up** the decimals!

3.8 – 2.14 3.8

 -2.14 line up the decimals

Add a zero 3.80

if necessary -2.14

32.442 + 5.91 32.442

 + 5.91 line up the decimals

Add a zero 32.442

if necessary + 5.910

You Try It!

|  |  |
| --- | --- |
| 0.15 + 3.1 | 17.810 – 3.999 |
| 45.098 + 7.8994 | 25.1 - 3 |
| 103.98 + 4.670118.222 + 7.9942  | 49.320 - 35.22341876.3 – 187.63 |

Work Page

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**Multiplying Decimals**

HOW TO MULTIPLY DECIMALS

Is multiplying with decimals the same as multiplying with whole numbers? \_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| 35 x 48 35 x48 280 +1400 1680 | 3.5 x 4.8 3.5 x4.8 280 +1400 16.80 |

So…how do we determine where the decimal goes?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 **Steps to multiplying decimals:**

1. Estimate the answer.
2. Stack the numbers vertically (ignoring the decimal) and multiply.
3. Insert decimal point into the product by counting the digits behind the decimal/s.

or

Ask yourself, what the place value of the last digit is after the decimal for each factor – multiply those place values together and this tells you the place value of the decimals in the final product.

 3.***5*** tenths 0.1

 x4.***8*** $×$ tenths $×$0.1

 280 Hundredths 0.01

 +1400

 16.80 Hundredths 0.01

12.5 x 6.33 = 79125 10 x 5.67 = 5670

 0.591 1228 4.25

 x 7.8 x 1.77 x .11

 46098 217356 4675

**You Try It!**

|  |  |
| --- | --- |
| 25 $∙$ 0.4 | 1.201 $×$ 1.11 |
| 0.006(3.4) | 0.3 *of* 1.101 |
| 11.2 $∙$ 0.005 | 2(0.000006) |

**Work Page**

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**DIVIDING WHOLE NUMBERS**

HOW TO DIVIDE WITH WHOLE NUMBERS

Standard Algorithm:

 Quotient

Dividend$ ÷ $Divisor = Quotient Divisor Dividend

|  |  |
| --- | --- |
| 325 $÷$25 =  |   013 5 325 -30 25 - 25 0 |

**You Try It**

|  |  |
| --- | --- |
| 696$÷$12 | 750$÷$15 |
| 744$÷$24 | 1000$÷$25 |
|  |  |

Work Page

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**Dividing Decimals**

HOW TO DIVIDE DECIMALS

Standard Algorithm:

 Quotient

Dividend$ ÷ $Divisor = Quotient Divisor Dividend

|  |  |
| --- | --- |
|  0.133.25 $÷$25 = 25 3.25 $-$ 0\_\_  32 $-$ 25\_ 75 $-$75 0 |  0 12.13.025 $÷$.25 = .25 3.025 $-$ 0\_\_  30 $-$ 25\_ 52 $-5$0 25 - 250 |

You Try It

|  |  |
| --- | --- |
| 6.96$÷$12 | 7.50$÷$.15 |
| .744$÷$2.4 | 10.00$÷$.25 |
| 35.7$÷$.17  | .484$÷$.22 |

Work Page

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VOCABULARY

|  |  |
| --- | --- |
| Decimal | a number in a number system based on 10, also known as the Base-10 system |
| base 10 system |
| Place Value | • the value of a digit depending on its place in a number. |
| See chart above |
| Addend | • any number used to get the sum or total. |
| addend |
| Minuend | • the minuend is the first number in a subtraction. |
| minus, minuend |
| Subtrahend | • the subtrahend is the number taken away. |
| minus, minuend |
| Algorithm | • a way of setting out a step-by-step mathematical procedure.• a method used to find an answer. |
| EXAMPLE: Long multiplication steps or long division steps |
| Multiplication | • a mathematical operation where a number is added to itself a number of times.EXAMPLE: 2 + 2 + 2 = 2 x 3 or 2, 3 times. |
| Division | • to divide or division is sharing or groupinga number into equal parts.• dividend: the number being divided.• divisor or factor: a number thatwill divide the dividend exactly. |