

Luna's Space Adventure

Grade 5 · Place value with decimals · 5.NBT.A.1

Name _____

Date _____



Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Ten times and a tenth One place left is ten times as much; one place right is a tenth.

$2 \div 10 = \boxed{}$

$300 \times 10 = \boxed{}$

$70 \div 10 = \boxed{}$

$0.07 \times 10 = \boxed{}$

$0.9 \div 10 = \boxed{}$

$8 \times 10 = \boxed{}$

$10 \div 10 = \boxed{}$

$600 \times 10 = \boxed{}$

What is it worth? Write the value of the digit named.

In 51.209, the tenths digit is worth _____

In 72.522, the ones digit is worth _____

In 96.540, the ones digit is worth _____

In 98.676, the hundredths digit is worth _____

In 48.734, the hundredths digit is worth _____

In 52.437, the ones digit is worth _____

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ANSWER KEY



Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Ten times and a tenth One place left is ten times as much; one place right is a tenth.

$$2 \div 10 = 0.2$$

$$300 \times 10 = 3000$$

$$70 \div 10 = 7$$

$$0.07 \times 10 = 0.7$$

$$0.9 \div 10 = 0.09$$

$$8 \times 10 = 80$$

$$10 \div 10 = 1$$

$$600 \times 10 = 6000$$

What is it worth? Write the value of the digit named.

In 51.209, the tenths digit is worth

0.2

In 72.522, the ones digit is worth

2

In 96.540, the ones digit is worth

6

In 98.676, the hundredths digit is worth

0.07

In 48.734, the hundredths digit is worth

0.03

In 52.437, the ones digit is worth

2

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GUIDE

① What this sheet practises

How place value works with decimals: each place is worth ten times the place to its right and a tenth of the place to its left, so $\times 10$ and $\div 10$ shift the digits.

② A problem from the sheet, worked out

Ten times and a tenth One place left is ten times as much; one place right is a tenth.

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$$70 \div 10 = 7$$

$$0.07 \times 10 = 0.7$$

$$0.9 \div 10 = 0.09$$

$$8 \times 10 = 80$$

How: Multiplying by 10 moves each digit one place left, so it's worth ten times as much. Dividing by 10 moves each digit one place right: $4 \div 10 = 0.4$.

③ Words to know

tenth one of 10 equal parts: 0.1

hundredth one of 100 equal parts: 0.01

thousandth one of 1,000 equal parts: 0.001

place value what a digit is worth from where it sits

④ Watch for

- Just adding a zero to a decimal: 0.3×10 is 3, not 0.30.
- Moving the digits the wrong way when dividing: $4 \div 10$ is 0.4, not 40.
- Writing the digit instead of its value: in 83.923 the 2 is worth 0.02.

⑤ Where it fits

BEFORE

4.NBT.A.1

Understand that each place is worth ten times the place to its right.

THIS SHEET

5.NBT.A.1

Understand that each place is ten times the place to its right and a tenth of the one to its left.

NEXT

5.NBT.A.2

Explain the patterns in zeros and decimal points when multiplying or dividing by powers of 10.

⑥ Helping at home

Use money: a dime is a tenth of a dollar and a penny is a tenth of a dime. How many dimes make \$1? How many pennies make a dime?