

Year 6

Decimal Place Value

Answers



Maths Mastery **Decimal Place Value** Answers

Pavel writes three decimal fractions with 3 in the hundredths place.

0.234, 0.432, 0.334

He adds the decimals. Find the answer yourself, then find 2 more sets of three decimals with 3 in the hundredths place with the same total.

Total is 1. Many answers to finding 3 numbers.

6 is the only other number that can be put in the hundredths place of a number with 3 decimal places to make the total 1, e.g. 0.068, 0.068, 0.864.

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Maths Mastery **Decimal Place Value** Answers

Nikita tries to find 2 decimal fractions with the same digit in the thousandths place that totals 1.

Work alone or with a partner to help Nikita find 2 decimal fractions where this would work.

Explain why it is not possible for 2 decimal fractions with 3 decimal places to have the same digit in the hundredths place and to total 1.

Various answers with 5 in the thousandths, e.g. $0.605 + 0.395 = 1$

$0.45 + 0.55 = 1$, but as soon as a thousandth digit is added, one of the hundredths needs to be a 4.

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Maths Mastery **Decimal Place Value** Answers

George writes a number of decimal fractions.

Circle all the decimal fractions with 8 in the hundredths place.

Explain how you know the numbers you have circled have 8 in the hundredths place.

0.378

0.892

0.581

0.408

0.826

0.985

0.268

0.387

0.278

0.895

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Pavel writes a number of decimal fractions.

Circle all the decimal fractions with 5 in the tenths place.

Explain how you know the numbers you have circled have 5 in the tenths place.

0.548	0.458	0.295	0.572
0.451	0.045	0.519	0.53

Nikita writes a number of decimal fractions.

Circle all the decimal fractions with 2 in the thousandths place.

Explain how you know the numbers you have circled have 2 in the thousandths place.

0.623	0.812	0.239	0.421
0.266	0.832	0.275	0.329

George describes a number. "The number is between 1 and 2. There is a 5 in the tenths place, 8 in the hundredths place and a 1 in the thousandths place."

What is George's number?

With a partner, describe numbers to each other.

1.581



Pavel says, "When you multiply a decimal number by 10, the decimal point is moved one place to the left."

$$4.56 \times 10 =$$

Work alone or with a partner to improve Pavel's explanation.

It could be said when multiplying a decimal number by 10, the decimal point is moved one place to the right, but a better answer is to say the digits are moved one place to the left, so the decimal point appears to move one place to the right. E.g. $4.56 \times 10 = 45.6$

Nikita says, "When you divide a decimal number by 100, the digits move one decimal place to the right."

$$4.56 \div 100 =$$

Work alone or with a partner to improve Nikita's explanation.

When dividing a decimal number by 100, the digits are moved two places to the right, so the decimal point appears to move two places to the left. E.g. $4.56 \div 100 = 0.0456$

George writes some decimal numbers:

0.38 2.05 12.9 8.52

He asks, "What numbers are multiplied by 10 to give the answers above?"

0.038 0.205 1.29 0.852

Then he asks, "What numbers are divided by 10 to give the answers above?"

3.8 20.5 129 85.2

Work with a partner to repeat this exercise.

Nikita writes some decimal numbers:

7.2 0.98 23.1 9.02

He asks, "What numbers are multiplied by 100 to give the answers above?"

0.072 0.0098 0.231 0.0902

Then he asks, "What numbers are divided by 100 to give the answers above?"

720 98 2310 902

Work with a partner to repeat this exercise.

Pavel thinks of a decimal fraction:

"I divide it by 10."

"I add 7 hundredths."

"I multiply the number by 100"

"I subtract 2 tenths."

"My new number is 31.4."

"What number did I start with?"

2.46



I am a four-digit decimal fraction between 3 and 4. I have **3 decimal places**. I am an **even number**. My thousandths digit is a **prime number**. My tenths digit is **one more than my hundredths**. My hundredths digit is **3 times the size of my thousandths digit**.

What am I?

3.762

2 is the only even prime number and this information is vital to solving the problem.

Calculate the missing digits:

$$\square.3\square2 + 2.43\square = 8.\square29$$

$$6.392 + 2.437 = 8.829$$



What must be added to **1.076** to make **1.9**?

What must be added to **1.076** to make **1.09**?

0.824

0.014



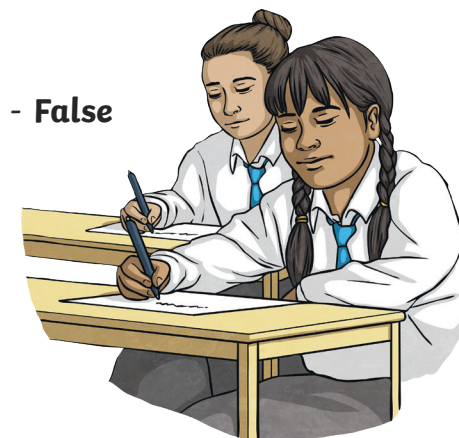
True or False?

$$5.267 \times 10 = 52.67 - \text{True}$$

$$(0.001 \times 100) + 3.764 = 3.774 - \text{False}$$

$$8.098 > 8.089 - \text{True}$$

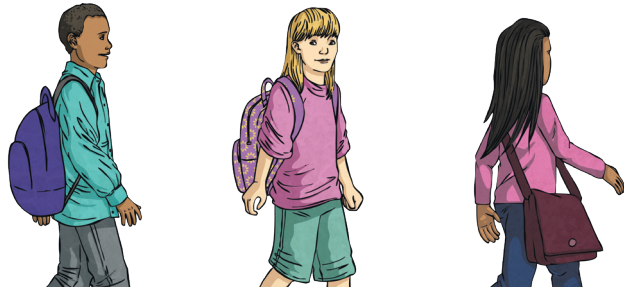
$$5.732 - 1.04 = 4.792 - \text{False}$$



What is halfway between **6.428** and **3.714**?

5.071

Add the two decimal numbers together and divide by two.



Which of these numbers is closest to **5.523**?

5.891

or

5.124

5.891

$$5.891 - 5.523 = 0.368$$

$$5.523 - 5.124 = 0.399$$



Use these 4 digits to make a number that when rounded to the nearest whole number makes 37.

6 3 4 9

Use these digits to make a number that when rounded to the nearest whole number makes 10.

2 9 0 5

36.94

9.502 or 9.520