

Decimal Place Value Worksheets

Compare your reasoning, not just the final result. Equivalent correct methods are welcome.

Public practice with published answers. This is not a full-topic readiness assessment.

1. In 8.406, give the value of the digits 4 and 6. Explain what the zero tells you.

Worked solution 1: 4 tenths (0.4); 6 thousandths (0.006); zero hundredths.

1. Label the places: 8 ones, 4 tenths, 0 hundredths, 6 thousandths.
2. The zero keeps the 6 in the thousandths place; deleting it would change the number to 8.46.

2. Write 3.052 as a sum of its non-zero place values, then write it in words using thousandths.

Worked solution 2: $3 + 0.05 + 0.002$; three and fifty-two thousandths.

1. There are 3 ones, no tenths, 5 hundredths and 2 thousandths.
2. Five hundredths are 50 thousandths. The fractional part is 52 thousandths.

3. A whole strip is divided into ten equal parts. Write the shaded amount as a fraction and a decimal. Explain the denominator.



One whole strip

Worked solution 3: $3/10 = 0.3$.

1. There are ten equal parts in the whole, so each part is one tenth.
2. Three shaded parts represent three tenths: $3/10$ or 0.3.

4. Arrange 2.09, 2.9, 2.109 and 2.19 from least to greatest. Explain the first comparison and the last comparison.

Worked solution 4: $2.09 < 2.109 < 2.19 < 2.9$.

1. Write equivalent forms: 2.090, 2.109, 2.190 and 2.900.
2. $2.090 < 2.109$ because 0 tenths $<$ 1 tenth. $2.190 < 2.900$ because 1 tenth $<$ 9 tenths.
3. Between 2.109 and 2.190, compare hundredths: $0 < 9$.

5. A learner says 0.58 is larger than 0.6 because 58 is larger than 6. Correct the explanation using a common place-value unit.

Worked solution 5: $0.58 < 0.6$ because 58 hundredths $<$ 60 hundredths.

1. The digits 58 and 6 originally refer to different units.
2. Rewrite 6 tenths as 60 hundredths. Now compare 58 with 60.

6. A ribbon is 0.047 m long. Find ten times that length and one tenth of that length. Explain the new value of the digit 4 in each result.

Worked solution 6: Ten times: 0.47 m (4 tenths). One tenth: 0.0047 m (4 thousandths).

1. $0.047 \times 10 = 0.47$: every digit's value becomes ten times as large. The 4 changes from hundredths to tenths.
2. $0.047 \div 10 = 0.0047$: every digit's value becomes one tenth as large. The 4 changes from hundredths to thousandths.
3. This final question stretches beyond thousandths to ten-thousandths.