Grade 5 Math

Unit 3: Extending Place Value and Working with Decimals to Solve Problems

Dear Families,

We want to make sure that you understand the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit 3.

Each standard is in bold print, and below each one is an explanation with examples. Please let your teacher know if you have any questions. We appreciate your partnership and support.

5.NR.4.1: Read and write decimal numbers to the thousandths place using base ten numerals written in standard form and expanded form.

Students should be able to:

- understand that exponents and decimal numbers should not be included in expanded form notation.

Note: The decimal fractions used in Grade 5 should be limited to those for which the equivalent fraction can be written as a fraction where the denominator is a power of ten.)

Examples:

1. What is $3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})$ written in standard form?

2. What is thirty-two and four hundredths written in standard form?

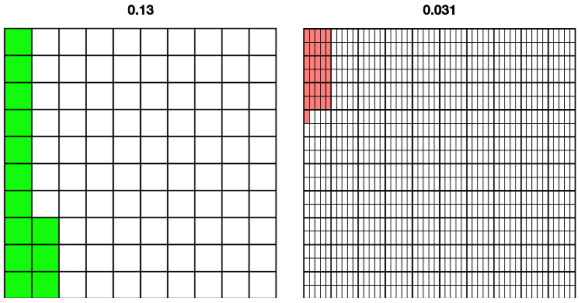
Answers:

1. 347.392
2. 32.04

5.NR.4.2: Represent, compare, and order decimal numbers to the thousandths place based on the meanings of the digits in each place, using >, =, and < symbols to record the results of the comparisons.

Examples:

1. Use <, >, or = to fill in the blank: 5.432 _____ 5.423
2. Which is greater 0.13 or 0.031? Explain. Use a visual representation to illustrate your explanation.



Answers:

1. >
2. I think 0.13 is greater because it fills up more of the whole square than 0.031 does.

5.NR.4.3: Use place value understanding to round decimal numbers to the hundredths place.

Students should be able to:

- identify the hundredths and thousandths digits in the number, then use the rules for rounding to the nearest hundredth.

Examples:

1. What is 8.421 rounded to the nearest hundredth?
2. What is 2.168 rounded to the nearest hundredth?

Answers:

1. 8.42
2. 2.17

5.NR.4.4: Solve problems involving addition and subtract of decimal numbers to the hundredths place using a variety of strategies.

Students should be able to …

- solve problems in different ways and have the flexibility to choose a mathematical strategy that allows them to make sense of and strategically solve problems using efficient methods that are most comfortable for and makes sense to them.
- add and subtract decimal numbers to hundredths, using concrete models, drawings, strategies based on place value, properties of operations, and the relationship between addition and subtraction (and relate the strategy to a written method and explain the reasoning used).
- use money as a tool to aid in their understanding of adding and subtracting decimal numbers to the hundredths place.

Examples:

1. A shop charges $14.29 for a car wash and $24.75 for an upholstery shampoo. What is the total cost for a car wash and a shampoo?
2. Jay bought a book that cost $22.17. If Jay gave the clerk $30, how much change did he receive?

Answers:

1. $39.04
   Possible strategy: I subtracted $0.25 from $14.29 and added $0.25 to $24.75. So, the total cost is $14.04 + $25 = $39.04.

2. $7.83
   Possible strategy:

$$\begin{array}{r} 30.00 \\ -\ 22.17 \\ \hline 7.83 \end{array}$$

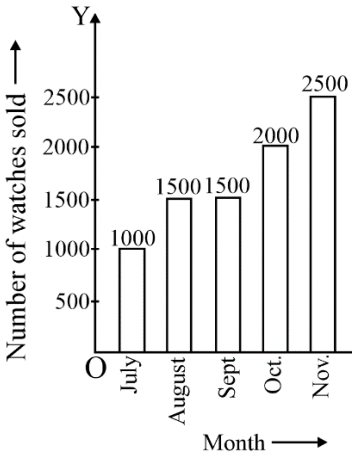
Once you have the numbers lined up, subtract the same way you subtract whole numbers.

So, Jay's change was $7.83.

5.MDR.7.2: Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.

Examples:

Use the bar graph to the right to answer the following questions:



1. How many watches were sold in August and November?
2. How would you write your answer above in exponential form?
3. Which month has 2×10^3 watches sold?

Answers:

1. 4,000 watches
2. 4×10^3
3. October