

DECIMALS

The student will be able to:

1. Perform basic operations using decimal numbers: addition, subtraction multiplication, and division.

- Demonstrate an understanding of place value
- Locate decimal numbers on a number line
- Round decimal numbers
- Read and write decimal numbers properly
- Relate decimals to money
- Change decimals to equivalent fractions and percents
- Order and compare decimal numbers
- Place decimals correctly in computation answers
- Be aware of the relationship of decimals to the metric system
- Use a calculator to compute decimal computation problems

2. Apply appropriate strategies for solving decimal word problems.

- Read the problem several times
- Personalize the problem
- Draw a picture or diagram to help solve the problem
- Eliminate extraneous information
- Simplify the problem with easier numbers
- Use estimation to solve problems and assess the reasonableness of the answer
- Determine the number of steps and operations needed to solve the problem- *Students will often stop after the first step, leading them to choose the wrong answer.*
- Determine if the answer makes sense

Recommendations for teaching decimals:

- Have students brainstorm the ways decimals are used in “real life”
- Have students orally read and write decimal numbers. Be sure that they substitute “and” for the decimal point and use place value. 25.25 should be read as 25 *and* 25 hundredths
- Use visuals and manipulatives
- When comparing and ordering decimals, it’s helpful to line up the points, write the numbers in a column and add zeros so that all the numbers have the same number of digits
- Find perimeter using decimal numbers
- Find area using decimal numbers
- Find volume using decimal numbers
- Practice order of operations using decimal numbers
- Find mean, median, and mode using decimal numbers
- Solve simple equations that include decimal numbers
- Read and use charts and graphs that include decimal numbers

Essential Decimal Vocabulary

Ordering: Putting decimals in a series from the lowest to the highest value or from the highest to the lowest value.

Tenths: The value of a number with only one decimal place e.g. .5 or .2

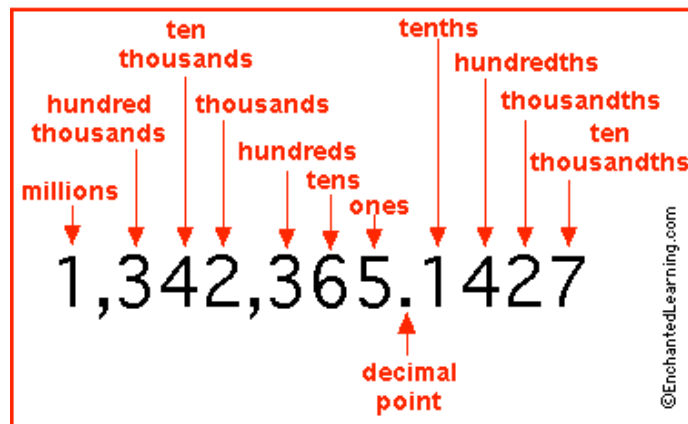
Hundredths: The value of a number with two decimal places e.g. .05 or .25

Thousandths: The value of a number with three decimal places e.g. .005 or .255

Zero as Place Holder: If there are not enough digits in an answer, use zeros as placeholders. Place the zeros to the left of the answer:

e.g. .014

$$\begin{array}{r} 014 \\ \times 0.6 \\ \hline 0.0084 \end{array}$$



Name _____

Date _____

Decimal Number Assessment

Compare. Write $<$, $>$, or $=$.

1. 8.49 _____ 8.399	2. 5.10 _____ 5.055
3. 7.09 _____ 7.1	4. 8.240 _____ 9.2
5. 6.170 _____ 6.17	6. 11.930 _____ 11.8540

Order the decimals from least to greatest.

7. 81.86, 81.228, 81.2	8. 5.05, 5.045, 6, 4.92
9. 28.77, 28.76, 28.680	10. 75.57, 75.19, 75.9, 70

Round to the nearest tenth.

11. 5.67 12. 8.092 13. 12.563 14. 125.3465

Round to the nearest hundredth.

15. 6.954 16. 8.057 17. 12.9467 18. 15.9846

Add or subtract.

19. $24.77 + 7.9 =$	20. $29.22 - 8.5 =$
21. $21.6 - 9.38 =$	22. $24 + 3.29 =$

Multiply.

23. $5.2 \times 6 =$	24. $1.2 \times 2.5 =$
25. $.61 \times .02 =$	26. $0.54 \times 4 =$

Divide.

27. $3.5 \div 7 =$	28. $7.5 \div 5 =$
29. $4 \div 8 =$	30. $200 \div 2.5 =$

31. A factory shipped 15 boxes to a customer. Each box weighed 10.5 pounds. What was the total weight of the shipment ? _____
32. Last week Cait worked 8.5 hours on Monday, she worked 8 hours on Tuesday, 8.5 hours on Wednesday, 9 hours on Thursday, and 9.5 hours on Friday. How many hours did she work last week ? _____
33. Shayne makes \$12.55 per hour. Before his last raise, he was paid \$11.60 per hour. How much was the raise ? _____
34. Sean bought 4 quarts of ice cream for \$12.56. If each quart cost the same, what was the price of each quart ? _____

Decimal Number Word Problems

1. When Deanna used her calculator to divide, she got 0.857152. What is her answer rounded to the nearest hundredth?
 1. .9
 2. .86
 3. .85
 4. .858

 2. The rainfall in Dover was .28 inch on Friday, 1 inch on Saturday, and .8 inches on Sunday. What was the total amount of rainfall for these three days ?
 1. 2.08 inches
 2. 1.18 inches
 3. .118 inches
 4. 3.7 inches

 3. John sold 8 candy bars. Each bar cost 89 cents. He also sold 6 cans of soda for .75 each. How much money did he collect ?
 1. \$7.12
 2. \$16.40
 3. \$ 4.50
 4. \$11.62

 4. If you worked 7.5 hours on Tuesday and 10.25 hours on Friday, how much longer did you work on Friday?
 1. 17.75 hours
 2. 3.20 hours
 3. 3.25 hours
 4. 2.75 hours

 5. You can buy 8 pencils for \$2.40. How much does one cost ?
 1. \$.03
 2. \$.25
 3. \$.30
 4. \$ 3.00

 6. A customer paid \$3.75 for 3 pounds. How much does one pound cost ?
 1. \$1.00
 2. \$1.30
 3. \$1.25
 4. \$11.25

 7. Order the decimals from smallest to largest. 3.5, 3.45, 4.0, 3.099, 3.61
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8. The salad bar costs \$3.98 a pound. If you bought 1.5 pounds of salad, what would it cost ?
1. \$7.96
 2. \$2.48
 3. \$5.97
 4. \$5.48
9. A piece of wood is 72.25 inches long. If it is cut into 5 equal pieces, what will the length of each piece be ?
1. 14.45 inches
 2. 361.25 inches
 3. 2 feet
 4. 62.25 inches
10. If you buy 5 apples @ .45 cents each and 6 peaches @ .60 cents each, how much change would you get from a \$20.00 bill ?
1. \$18.95
 2. \$5.85
 3. \$10.50
 4. \$14.15
11. Solve. $.6 \times (1.5 + 2) - 2 =$ _____
12. What is 2 divided by 4 ?
1. 0.5
 2. 2
 3. 5
 4. 2.5



Student Inventory Decimal Numbers

Name _____

Date _____

*Answer each question below by putting a check mark after Yes or I need more work.
If you check yes, prove it by answering the question.*

1. **I know place value up to the millionths.**
In the number 5 .06543 which number is in the thousandths place ? _____
Yes _____ I need more work _____

2. **I can round off decimal numbers.**
Round 12.164 to the nearest thousandths. _____
Yes _____ I need more work _____

3. **I can read and write large decimal numbers.**
Write one hundred fifty and sixty six thousandths. _____
Yes _____ I need more work _____

4. **I can compare decimal numbers.**
Order from smallest to largest. 1.5, .95, .0985, .8 _____
Yes _____ I need more work _____

5. **I can change decimals to fractions and percents.**
Change .75 to a fraction and percent. _____
Yes _____ I need more work _____

6. **I can add decimal numbers.**
 $1.25 + 6 + .5 =$ _____
Yes _____ I need more work _____

7. **I can subtract decimal numbers.**
 $12 - 4.5 =$ _____
Yes _____ I need more work _____

8. **I can multiply decimal numbers.**
 $3.46 \times 1.2 =$ _____
Yes _____ I need more work _____

9. **I can divide decimal numbers.**
 $6.5 \div 5 =$ _____
Yes _____ I need more work _____

10. **I can answer one-step word problems.**
Yes _____ I need more work _____

11. **I can answer multi-step word problems.**
Yes _____ I need more work _____