Pretest

Can you do these problems?

Try them now while you are waiting for class.

1) .21 + .9 =
2) .34 + 8 =
3) .2 x .3 =
4) 2.2 x 3.4 =
5) 3 ÷ .2 =

Decimals

Is there a point?

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Decimals Review

This is an B R I E F overview of decimal numbers.

This presentation will cover many of the processes used to do calculations with decimals.

Pretest

Can you do these problems?

1) .21 + .9 =
2) .34 + 8 =
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5) 3 ÷ .2 =

Pretest

1) .21 + .9 = 1.11
2) .34 + 8 = 8.34
3) .2 x .3 = .06 or 0.06
4) 2.2 x 3.4 = 7.48
5) 3 ÷ .2 = 15

The History of Decimals

I was told in college while studying to be a teacher that decimals were invented by a French accountant as a shortcut to writing fractions that were tenths and hundredths.

Decimals were easier to write.

Instead of writing: 3/10, 7 1/100, or 13/100,

he would write: .3 , 7.01 , or .13

Zeros-Do they matter?

Yes and no.

In a number like 0.3, the zero does not matter.

Someone thought it was a good idea to put a zero in front of a decimal number so nobody would get mixed up and think .3 was 3

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A zero before the decimal does NOT matter

but

you should be able to recognize that .3 and 0.3 are the same.

Zeros-Do they matter?

Yes and no.

In a number like .04 the zero DOES matter.

It MUST be there or the number is different.

.04 is like 4 cents but .4 is like 40 cents.

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.04 is like 4 cents but .4 is like 40 cents.

Zeros between the decimal point and a digit DO matter.

Zeros-Do they matter?

Yes and no.

Zeros can be added after the last digit.

.5 and .50 and .500000 are all the same.

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Zeros-Do they matter?

Yes and no.

Zeros can be added after the last digit.

.5 and .50 and .500000 are all the same.

Zeros after the last decimal digit do not matter.

You already know that

$300 is the same as $300.00

The same or not?

1) .4 and 0.4

   A) The same B) Not the same

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The same or not?

2) 0.04 and 0.40

A) The same B) Not the same

The same or not?

2) 0.04 and 0.40

A) The same

B) Not the same

The same or not?

3) 6 and 6.00

A) The same B) Not the same

The same or not?

3) 6 and 6.00

A) The same B) Not the same

The same or not?

4) .007 and .07

A) The same B) Not the same

The same or not?

4) .007 and .07

A) The same

B) Not the same

Adding and Subtracting Decimals

- Before adding or subtracting decimals,
- 1st- Line up the decimals.

For example: 3.24 + 12.4

$$\begin{array}{r} 3.24 \\ +\ 12.4 \\ \hline \end{array}$$

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2nd- After adding, the decimal comes straight down.

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Adding Decimals

3.4 + 2.35 =

A) 5.75 B) 2.69 C) .575

Adding Decimals

3.4 + 2.35 =

A) 5.75 B) 2.69 C) .575

Subtracting Decimals

You can add zeros after the last digit as needed

3.4 - 2.35 =

Becomes:

3.40

- 2.35

Subtracting Decimals

You can add zeros after the last digit as needed

3.4 - 2.35 =

Becomes:

$$\begin{array}{r} 3.40 \\ -\ 2.35 \\ \hline 1.05 \end{array}$$

If you don’t see the point . . .

- Whole numbers like 4 or 72 do not have a decimal point.

- If you need to know where it is to add, subtract or divide them, add it behind the number. 4 is 4.0 72 is 72.0

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- Ju$t think money. 45

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- Whole numbers like 4 or 72 do not have a decimal point.

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- Ju$t think money. $45

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- Ju$t think money. $45.00

Multiplying Decimals

When multiplying decimals you do NOT need to line up the decimal points.

Ignore the decimal points and multiply as usual.

After multiplying count the number of decimal places total in both numbers and come over that many places in the answer. That's where the decimal is placed in the answer.

Multiplying Decimals

Multiply as usual, ignore the decimals

$$\begin{array}{r} 4.2 \\ \times\ .12 \\ \hline \end{array}$$

Multiplying Decimals

Multiply as usual, ignore the decimals

$$\begin{array}{r} 4.2 \\ \times\ .12 \\ \hline 84 \end{array}$$

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$$\begin{array}{r} 4.2 \\ \times\ .12 \\ \hline 84 \\ 420 \end{array}$$

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$$\begin{array}{r} 4.2 \\ \times\ .12 \\ \hline 84 \\ 420 \\ \hline 504 \end{array}$$

Multiplying Decimals

Multiply as usual, ignore the decimals

$$\begin{array}{r} 4.2 \\ \times\ .12 \\ \hline 84 \\ 420 \\ \hline 504 \end{array}$$

Then, count the number of decimal places in the problem.

Multiplying Decimals

Multiply as usual, ignore the decimals

4.2 ← one

x .12 ← two Total= 3 decimal places

84

420

504

Then, count the number of decimal places in the problem.

Multiplying Decimals

Multiply as usual, ignore the decimals

4.2 ← one

x .12 ← two Total= 3 decimal places

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420

504

Come over that many spaces (3) in the answer.

Multiplying Decimals

Multiply as usual, ignore the decimals

4.2 ← one

x .12 ← two Total= 3 decimal places

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Come over that many spaces (3) in the answer.

Multiplying Decimals

Multiply as usual, ignore the decimals

4.2 ← one

x .12 ← two Total= 3 decimal places

84

420

504

Come over that many spaces (3) in the answer.

That's where the decimal goes.

Multiplying Decimals

Try these:

1) .82 x 2.7 = (A) 22.14 (B) 2.214

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1) .82 x 2.7 = (A) 22.14 (B) 2.214

2) .3 x .3 = (A) .9 (B) .09

Multiplying Decimals

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Multiplying Decimals

Try these:

1) .82 x 2.7 = (A) 22.14 (B) 2.214

2) .3 x .3 = (A) .9 (B) .09

3) 1.23 x 2.4 = (A) 2.952 (B) .2952

Multiplying Decimals

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1) .82 x 2.7 = (A) 22.14 (B) 2.214

2) .3 x .3 = (A) .9 (B) .09

3) 1.23 x 2.4 = (A) 2.952 (B) .2952

Dividing Decimals

Look closely at these two division problems:

$2\overline{)4.68}$ $.3\overline{)9.63}$

What is the difference in them?

Dividing Decimals

Look closely at these two division problems:

$2\overline{)4.68}$ $.3\overline{)9.63}$

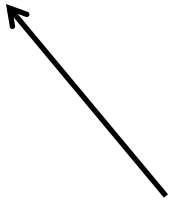
What is the difference in them?

One has a decimal in the number you are dividing by and the other does not have a decimal in the number you are dividing by.

Dividing Decimals

Look at these two division problems:

$2\overline{)4.68}$ $.3\overline{)9.63}$



This problem can be solved by just bringing the decimal up.

Dividing Decimals

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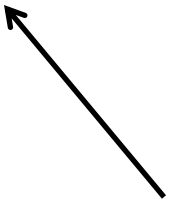
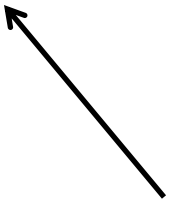


This problem can be solved by just bringing the decimal up, then dividing as usual.

Dividing Decimals

Look at these two division problems:

$$2\overline{)4.68} \qquad .3\overline{)9.63}$$



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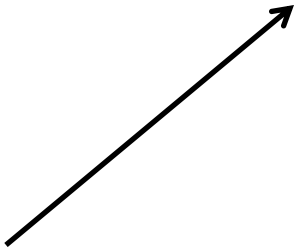
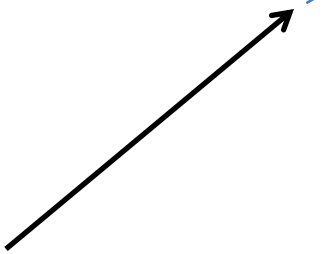


This problem has a decimal in the number you're dividing by so you MUST move the decimal before dividing.

Dividing Decimals

Look at these two division problems:

$$2\overline{)4.68} \qquad .3\overline{)9.63}$$

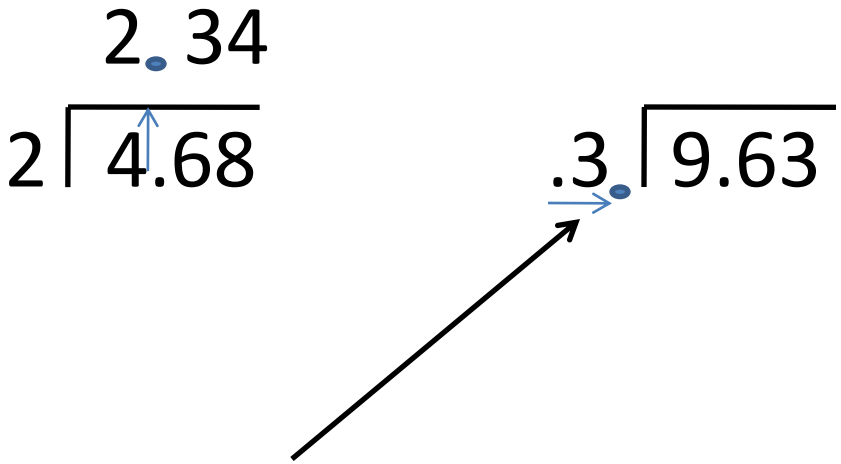


This problem has a decimal in the number you're dividing by so you MUST move the decimal before dividing.

Move the decimal to the end. (one space in this example)

Dividing Decimals

Look at these two division problems:



This problem has a decimal in the number you're dividing by so you MUST move the decimal before dividing.

Move the decimal to the end. (one space in this example)

AND move the decimal that same amount in the other number.

Dividing Decimals

Look at these two division problems:

$$2\overline{)4.68} \qquad .3\overline{)9.63}$$

This problem has a decimal in the number you're dividing by so you MUST move the decimal before dividing.

Move the decimal to the end. (one space in this example)

AND move the decimal that same amount in the other number.

Dividing Decimals

Look at these two division problems:

$$2\overline{)4.68} = 2.34$$

$$.3\overline{)9.63}$$

Now bring the decimal straight up and divide as usual.

Dividing Decimals

Look at these two division problems:

Now bring the decimal straight up and divide as usual.

Dividing Decimals

Look at these two division problems:

$$2\overline{)4.68} = 2.34 \qquad .3\overline{)9.63} = 32.1$$

Now bring the decimal straight up and divide as usual.

Practice

$.03\overline{)6.939}$

A) 23.13

B) 231.3

C) 2313

Practice

$.03\overline{)6.939}$

A) 23.13

B) 231.3

C) 2313

Practice

$.02\overline{)84}$

A) 42

B) 420

C) 4200

Practice

$.02\overline{)84}$

A) 42

B) 420

C) 4200

WHY?????

Practice

$.02\overline{)84}$

A) 42

B) 420

C) 4200

84 does not have a decimal showing

BUT think money!

84 is the same as 84.

Move to places, add 2 zeros. $.02\overline{)8400.}$

More Practice

- Math-Drills.com
- This website has MANY worksheets with answers for practice on every type of decimal problem.

Quick Decimal Review

- Adding / Subtracting- Line up decimal points,
  keep decimal point in line for answer.
- Multiplying- Count total decimal places in both numbers,
  ignore decimals while multiplying
  come over that many places in answer.
- Dividing-

  If no decimals in number dividing by,
  bring decimal straight up.

  If decimals are in number dividing by,

  move decimal point to end and move decimal point that many places to right in number being divided.

Post test

Can you do these problems?

1) .1 + .2 =

Post test

Can you do these problems?

1) .1 + .2 = .3

Post test

Can you do these problems?

2) .1 x .2 =

Post test

Can you do these problems?

2) .1 x .2 = .02

Post test

Can you do these problems?

3) .1 ÷ 2 =

Post test

Can you do these problems?

3) .1 ÷ 2 = .05

Post test

Can you do these problems?

4) $1 \div .2 =$

Post test

Can you do these problems?

4) $1 \div .2 = 5$

Post test

Can you do these problems?

5) 325 - 1.04 =

Post test

Can you do these problems?

5) 325 - 1.04 = 324.96

LINKS

I will now send you a file with some links for decimal practice.

Any questions?

Video?

http://www.teachertube.com/view_video.php?viewkey=8551bd3066e2a9304ee7

This Math is Easy Song

Decimals Review Workshop

REPEAT SESSION

Friday 11:15.

Essay Writing Workshop
Wed., March 4, 2009:

11:15am and 9:15pm

Ask your teacher for the link.

www.MyGEDClass.com

Brett Taylor