

# Warm up

1.  $6 - 9$

2.  $-5 + (-6)$

3.  $15 - 27$

4.  $8 + (-2)$

5.  $-6 + 11$

## 2.2 Adding and Subtracting Decimals

Essential Question:

How do you add and subtract decimals?

Standard:

MCC7.NS.1: Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers

$$\begin{array}{r} 66.8 \\ + 4.0 \\ \hline 70.8 \end{array}$$

*Use zero as a placeholder so that both numbers have the same number of digits after their decimal points.*

*Add each column just as you would add integers.*

Line up the decimal points.

# Just Watch

Operations with Decimals

$$\begin{array}{r} 16.07 \\ + 16.09 \\ \hline 32.16 \end{array}$$

When adding decimals, line the question up in the answer and the answer.

When subtracting with decimals, line the question up in the answer and the answer.

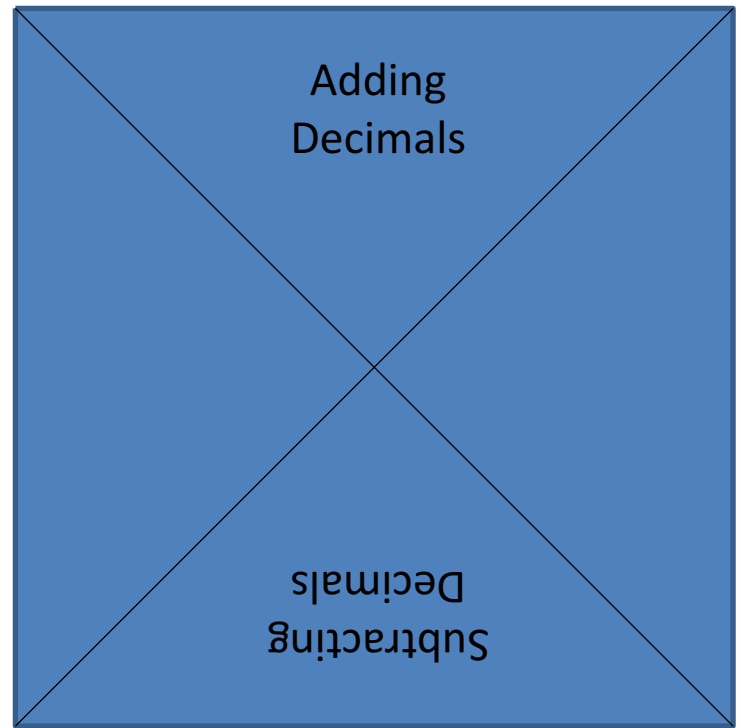
$$\begin{array}{r} 20.11 \\ - 11.11 \\ \hline 9.00 \end{array}$$

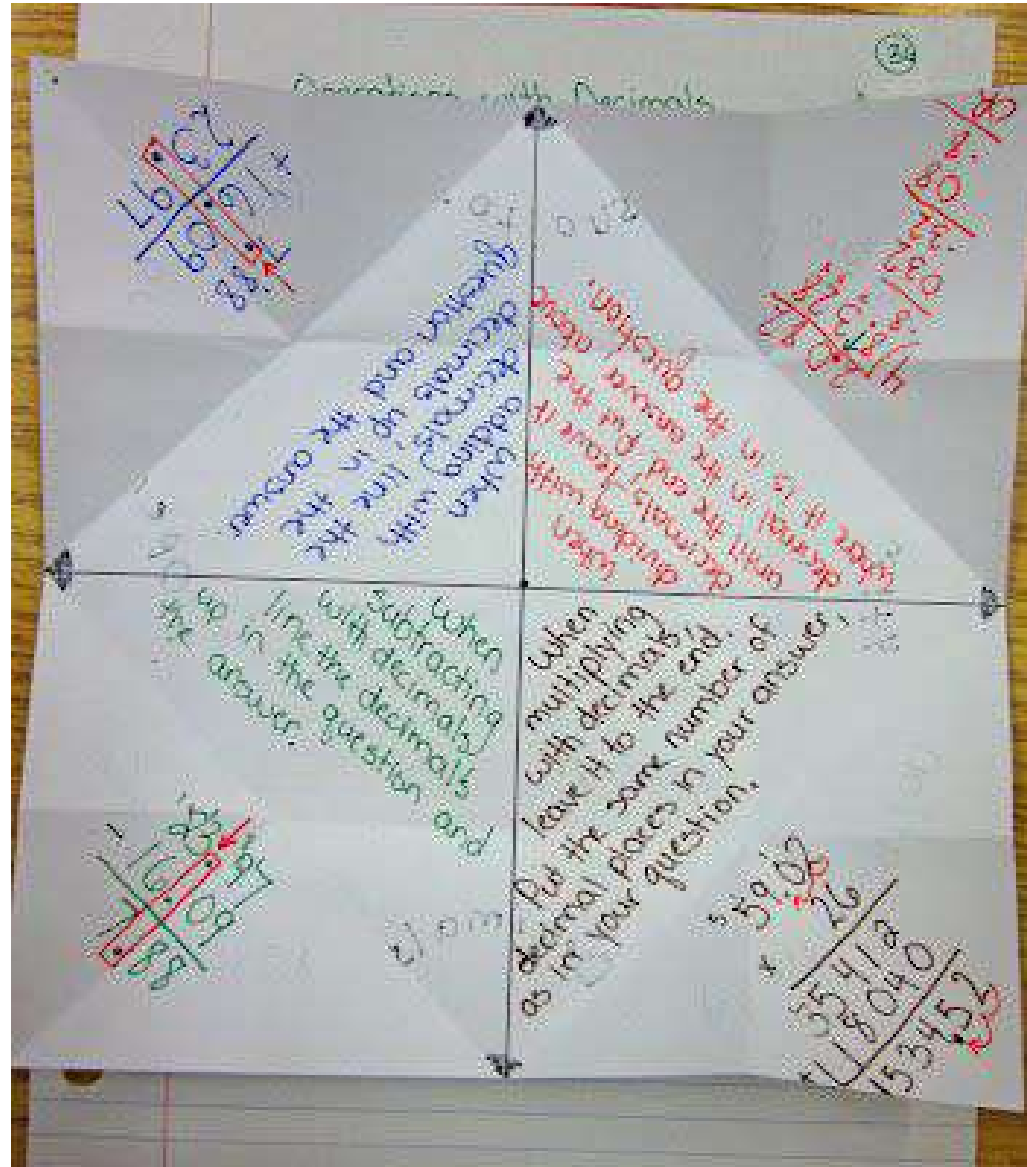
$$\begin{array}{r} 16.07 \\ - 16.09 \\ \hline -0.02 \end{array}$$

When subtracting with decimals, line the question up in the answer and the answer.

When multiplying with decimals, leave it to the end. Put the same number of decimal places in your answer as in your question.

$$\begin{array}{r} 30.00 \\ \times 26 \\ \hline 18000 \\ + 180000 \\ \hline 780000 \end{array}$$





## Adding:

When adding with decimals, line up the decimal in the question and answer

$$7.88 + 16.09$$

## Additional Example 1A: Adding Decimals

Add. Estimate to check whether each answer is reasonable.

$$4.55 + 11.3$$

$$\begin{array}{r} 4.55 \\ + 11.30 \\ \hline 15.85 \end{array}$$

*Line up the decimal points.*

*Use zero as a placeholder.*

*Add.*

***Estimate***

$$5 + 11 = 16$$

*15.85 is a reasonable answer.*

# Integer Rules Still

Apply!!!!!!!!!!!!!!!!!!!!!!!!!!!!

## Remember!

Same sign add and keep

Different signs subtract

Take the sign of the larger number,

Then you'll be exact.



## Additional Example 1C: Adding Decimals

Add. Estimate to check whether each answer is reasonable.

$$-8.33 + (-10.972)$$

$$-8.33 + (-10.972)$$

$$\begin{array}{r} 8.330 \\ +10.972 \\ \hline 19.302 \end{array}$$

$$\begin{aligned} -8.33 + (-10.972) &= \\ -19.302 & \end{aligned}$$

**Estimate**

$$-8 + (-11) = -19$$

*Think:  $8.33 + 10.972$ .*

*Line up the decimal points.*

*Use zero as a placeholder.*

*Add.*

*Use the sign of the two numbers.*

*$-19.302$  is a reasonable answer.*

## Check It Out: Example 1A

Add. Estimate to check whether each answer is reasonable.

$$6.78 + (-13.2)$$

$$\begin{array}{r} -13.20 \\ + 6.78 \\ \hline -6.42 \end{array}$$

*Think. Different signs subtract*

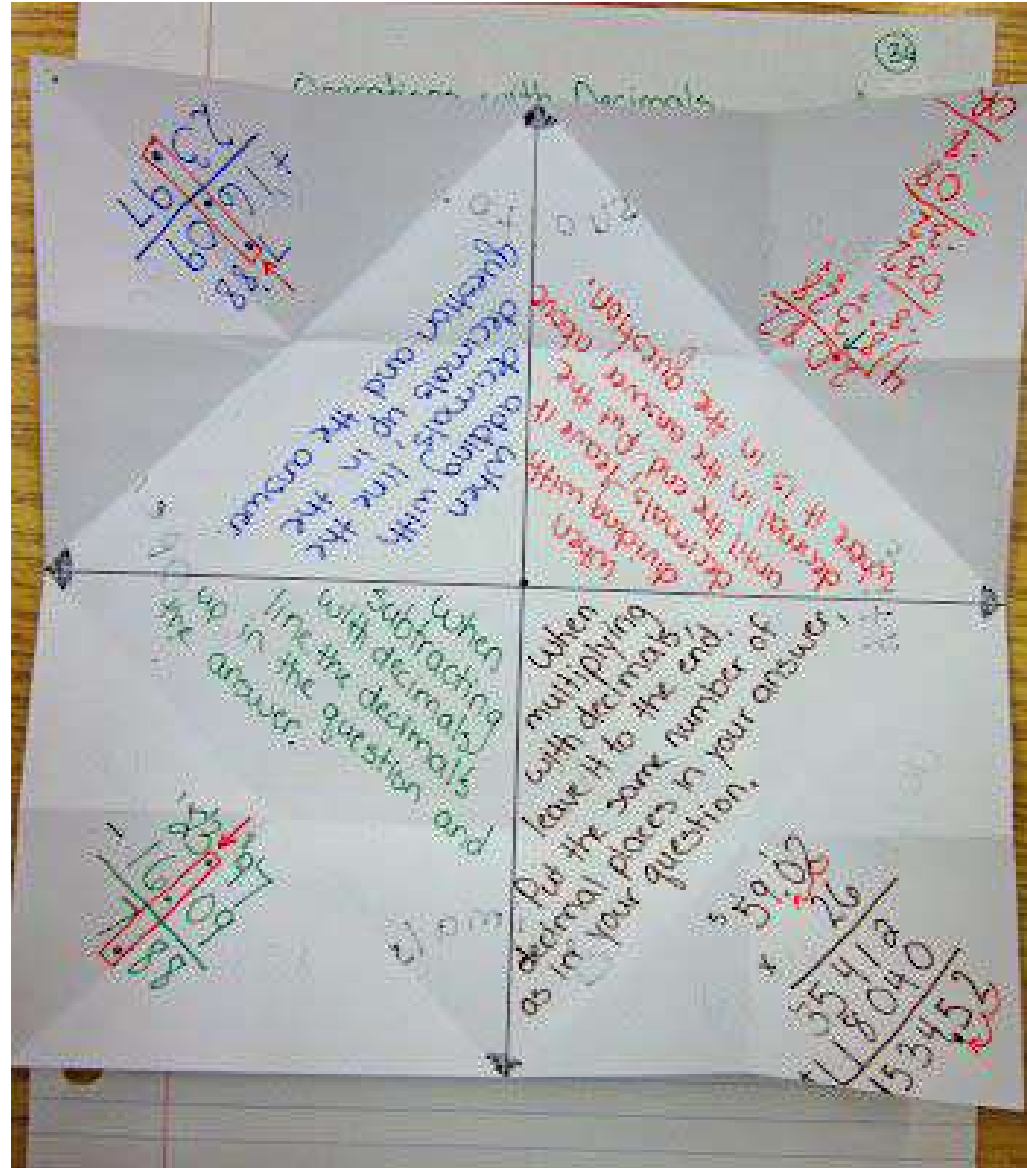
*Use zero as a placeholder.*

*Sub.*

***Estimate***

$$7 + -13 = -6$$

*-6.42 is a reasonable answer.*



## Subtracting:

When subtracting with decimals, line up the decimal in the question and answer

Big |x| on top

$$7.88 - 16.09$$

## Additional Example 2: Subtracting Decimals

Subtract.

A.  $-5.34 - 2.08$

$$\begin{array}{r} -5.34 \\ -2.08 \\ \hline -7.42 \end{array}$$

*Line up the decimal points.*

*Same sign add.*

B.  $28 - 15.911$

$$\begin{array}{r} 28.\overset{7}{\cancel{0}}\overset{9}{\cancel{0}}\overset{10}{\cancel{0}} \\ -15.911 \\ \hline 12.089 \end{array}$$

*Use zeros as placeholders.*

*Line up the decimal points.*

*Subtract.*

## Lesson Review

Solve

1.  $-6.98 + 14.27$

21.25;

2.  $-8.46 + (-19.2)$

-27.66;

3.  $-6.72 - 4.16$

-10.88

4.  $-24 + 3.8$

-20.2;

**Being HW:**

Math Book pg 44 # 28-39