March 13 Do NOW

5: Ellen wanted to buy the following items: A DVD player for $49.95, a DVD holder for $19.95 and a personal stereo for $21.95. Does Ellen have enough money to buy all three items if she has $90 with her?

6: In Example 5, did we overestimate or underestimate? Explain your answer.

7: What is the combined thickness of these five shims: 0.008, 0.125, 0.15, 0.185, and 0.005 cm?

8: Melissa purchased $39.46 in groceries at a store. The cashier gave her $1.46 in change from a $50 bill. Melissa gave the cashier an angry look. What did the cashier do wrong?

9: In Example 8, how much change should Melissa get from the cashier? The cashier gave her $1.46

10: If a 10-foot piece of electrical tape has 0.037 feet cut from it, then what is the new length of the tape?

Do NOW: Ans Part II

5: Ellen wanted to buy the following items: A DVD player for $49.95, a DVD holder for $19.95 and a personal stereo for $21.95. Does Ellen have enough money to buy all three items if she has $90 with her? Analysis: The phrase *enough money* tells us that we need to estimate the sum of the three items. We will estimate the sum by rounding each decimal to the nearest one. We must then compare our estimated sum with $90 to see if she has enough money to buy these items. Answer: No, because rounding each decimal to the nearest one, we get an estimate of $92, and Ellen only has $90 with her.

6: In Example 5, did we overestimate or underestimate? Explain your answer. Analysis: To determine if the estimate in Example 5 is an overestimate or an underestimate, we must compare her estimate with the actual sum. Answer: In Example 5, the estimate of $92 is an overestimate since it is greater than $91.85, the amount of money Ellen needs to buy these items.

7: What is the combined thickness of these five shims: 0.008, 0.125, 0.15, 0.185, and 0.005 cm? Analysis: The phrase *combined thickness* tells us that we need to add these five decimals to get their sum. Answer: The combined thickness of these five shims is 0.473 cm.

Do NOW: Ans Part II (continued)

8: Melissa purchased $39.46 in groceries at a store. The cashier gave her $1.46 in change from a $50 bill. Melissa gave the cashier an angry look. What did the cashier do wrong? Analysis: We need to estimate the difference to see if the cashier made a mistake. $50.00 - $40.00 = $10.00 Estimate: $1.46 is much smaller than the estimated difference of $10.00. So the cashier must have given Melissa the wrong change.

9: In Example 8, how much change should Melissa get from the cashier? The cashier gave her $1.46 Analysis: We need to find the difference of $50 and $39.46. Answer: $50.00 - $39.46 = $10.54

10: If a 10-foot piece of electrical tape has 0.037 feet cut from it, then what is the new length of the tape? Analysis: We need to subtract: 10 - 0.037 and express the answer with proper units. Answer: 10 ft. - 0.037 ft. = 9.963 ft.

Page 121, Adding Decimals

Thousand (1000)	Hundred (100)	Ten (10)	One (1)	.	Tenths (1/10)	Hundredths (1/100)	Thousandths (1/1000)	Ten-thousandths (1/10000)	Hundred-thousandths
			6	.	0	6	2		

1. We will add decimals.
2. Rounding each decimal number to the nearest whole number: a) $6.2 \approx 6$, $0.62 \approx 1$, $0.062 \approx 0$. b) Sum of the whole numbers from a) is 7.
3. (Review) Express each decimal as either a proper fraction or a mixed number. Then rewrite each fraction using the Least Common Denominator of the 3 fractions:

a) $0.062 = 62/1000 = 62/1000$

b) $0.62 = 62/100 = 620/1000$

c) $6.2 = 6 + 2/10 = 6 + 200/1000$

4. Sum of the fractions in parts a)+ b)+ c) $= 6\ 882/1000$. The decimal form of this number is 6.882
5. The steps of adding decimals: a) line up the decimal points in each number; b) starting at the place farthest to the right , add the digits in each place.

Page 138: adding Decimals (con't)

6. Estimate the height of the 3rd viewing level of the Eiffel Tower. a) round each decimal number to the nearest whole number. $157.27 \approx 157, 58.1 \approx 58, 57.63 \approx 58$. b) The whole number estimate is 273 meters.

7. Complete the additions in each place of the place value grid to find the actual height of the 3rd level of the Eiffel Tower.

a) Write a 0 in the hundredths Place and a 1 in the tenths place as a way to regroup the sum of the digits in the hundredths place.

1	5	7 .	2	7
	5	8 .	1	0
+	5	7 .	6	3
2	7	3 .	0	0

b) To regroup the sum of the digits in the tenths place, write a 0 in the tenths place and a 1 in the ones place.

c) The height of the 3rd viewing level of the Eiffel Tower is exactly 273 meters.

8. a) To check that the sum is correct in problem 7c), write each decimal number as a mixed number with the fraction in hundredths. 157.27 = 157 27/100, 58.1 = 58 10/100, 57.63 = 57 63/100

b) The sum of the whole numbers 157+58+57 = 272. The sum of the fractions 27/100 + 10/100 + 63/100 = 100/100 or 1. The sum of the mixed numbers is 273.

Page 141, Subtracting Decimals

1. We will subtract decimals.
2. Round each decimal number to the nearest whole number: a)29.46 ≈29, 11.86 ≈ 12; b) The difference between the 2 rounded values is 17.
3. Find the actual difference between the number of years it takes Saturn and Jupiter to orbit the Sun.

a)At what places do you begin subtracting? Hundredths.

$$\begin{array}{r} 29.46 \\ -\ 11.86 \\ \hline 17.60 \end{array}$$

b) To subtract 8 from 4 in the tenths place, we regroup 9 ones as 8 ones + 10 tenths. Adding 10 tenths to 4 tenths = 14 tenths in the tenths place.

c) The difference between 29.46 and 11.86 = 17.60 or 17.6

4. To check this subtraction, add 17.6 to 11.86 to get the number you subtracted from, 29.46.
5. One billion is one thousand million and is written as a 1 followed by 9 zeros, or 1,000,000,000.

Page 142, Subtracting Decimals

6. Round each decimal number to the nearest tenth. a)$0.149 \approx 0.1$; b)$1.427 \approx 1.4$

7. Find the distance between Earth & Saturn (in billions of kilometers).

a)In what places must you Regroup to subtract? Tenths & hundredths.

$$\begin{array}{r} 1.427 \\ -\ 0.149 \\ \hline 1.278 \end{array}$$

b)To subtract in the thousandths and hundredths place, regroup 4 tenths as 3 tenths + 10 hundredths.

c) Then add 10 hundredths to 2 in the hundredths place to get 12 hundredths.

d) To subtract in the thousandths place, regroup 12 hundredths as 11 hundredths + 10 thousandths.

e) Then add 10 thousandths to 7 in the thousandths place to get 17 thousandths.

f) The difference between 1.427 and 0.149 is 1.278

8. Saturn is 1.278 billion kilometers from Earth or 1,278,000,000 km from Earth.

9. a) Check the subtraction using addition.

b) The sum in part (a) means that the Minuend is the number being subtracted from.

$$\begin{array}{r} 1.278 \\ +\ 0.149 \\ \hline 1.427 \end{array}$$

Mar 13 Homework (Due Mar 27)

Math III: Pages 137-148 (all) in the reader.

Math IV: Pages 137 -148 (all) in the reader.

Worksheet on Adding and Subtracting Decimals, after page 146 in the reader.

Please Note:

No class next Sunday 3/20.