Math 8 Odyssey Unit 2: Fractions/Decimals/%

Thursday, June 25, 2015   3:36 PM

Unit 2: fractions/decimals/%

Relationship between fractions, decimals and %	MMS8: pg 239 #6, 7, 9, 12, 14, 18ab, 20, 21
% problems(pyramid), sales tax	MMS8: pg 252 #3,4,7,9 pg 260 #4, 6, 11, 12, 13
% problems in reality	-newspaper ads, glue, scissors
Commission	-smartphone/tablet

Ratios	-MMS8: pg 267: #4, 5, 8, 10
	          pg 274 #5, 7, 8, 10
	          pg 291 #4, 6, 7, 10, 13

rates	MMS8: pg 298 #5-7, 8 pg 303 #6, 8, 11, 16
Review	
Test	

Math 8 Odyssey: unit 2.1 - relationship between fractions, decimals and %

A) How to change:
 i) fractions to decimals?

Ex: remember: $\dfrac{3}{4}$

ex: $\dfrac{4}{3} =$

 ii) decimals to fractions?
  - Go by the place value of the LAST digit!

Ex: 0.75 $=$

Ex: 25.463 $=$

Ex: 1.33 $=$

 iii) decimal to %

-decimal # x 100

Ex: write each decimal number as a percentage:
 a) 0.75

 b) 0.075

 c) 0.0075

b) 0.075

c) 0.0075 .

d) 1.3

iv) % to decimal
-so #% ÷ 100
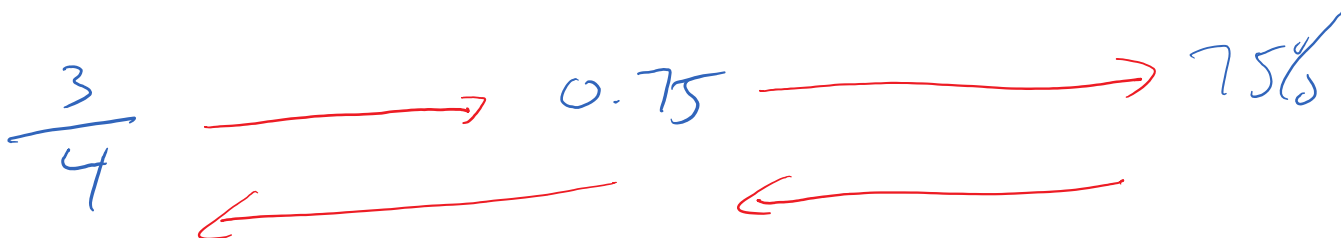
Ex: change each percent into a decimal number:
  a) 75%

  b) 7.5%

  c) 0.75%

  d) 133%

TRY:

In summary:

$$\frac{3}{4} \longrightarrow 0.75 \longrightarrow 75\%$$

*DO NOT mix decimals and fractions together!

Do: MMS8 pg 239 #6, 7, 9, 12, 14, 19, 20

Math 8 Odyssey unit 2.2: percentage problems

A) Percents between 0% to 1%, and > 100%

-remember: $\%\ \xrightarrow[\times\ 100]{\div\ 100}\ decimal$

So: $100\% =$
 $10\% =$
 $1\% =$

Also: $200\% =$
 $800\% =$

$0.1\% =$
$0.01\% =$
$0.001\% =$

$1000\% =$
$1500\% =$

And:

B) % problems
   -this triangle will give you the formulas you can use:

part / whole / %

$\% =$

$part =$

is / of / %

$\% =$

$is =$

whole =

of =

Ex: what is 15% of 20?

Ex: what is 20% of 50?
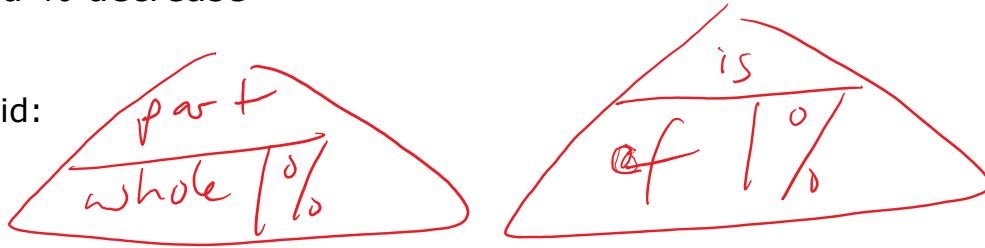
Ex: 20 is 15% of what number?

Ex: 40% of a number is 24. What is the number?

Ex: Kyle scored 25 out of 30 on the test. What is his percentage?

Do: MMS8: pg 246 #5-9, 14
         pg 252 #3, 4, 7, 10

Math 8 Odyssey unit 2.3: % Problems: %
increase and % decrease

Use the pyramid:

Question	Increase or decrease? (part)	Original amount (whole)	% increase or decrease
Vivian has a 1-D doll she bought for $30. Two years later, she sells it on ebay for $6. What is the percent decrease in value of her doll?			
Anson bought stock in Facebook for $25. It is now worth $300. What is his percentage profit?			

Ex: Lance bought a Canucks jersey for $40. He sold it for $45. What percentage price increase did he sell it for?

Ex: Eva bought some jade for $50. She found out it was fake and is only worth $10. What percentage of money did she lose?

Ex: Bea's height in grade 7: 130 cm
                    grade 9:   she grew 10%
                    grade 12: she grew an extra 15%
How tall is Bea in grade 12?

-MMS8 pg 253 #5, 6, 8, 13, 15, 16

Math Odyssey Unit 2.4: Sales tax and discounts

-read MMS8 pg 256 Investigate.
-in groups of 4: 1 person will do 1 possible method to find the final price of the racquet (3 people total)

-remaining person goes to board to write down whether their group got the same or different final price for the racquet…and what that final price is.

A) Sales tax   vs   Discount

B) Examples:

 i) Justin Bieber on iTunes: $1.29. Find the tax paid and the total price for downloading his song.

 ii) Call Me Maybe: regular price : $1.29. On sale: $0.99. Find:
  a) money saved
  b) percent off the regular price
  c) tax paid
  d) final price

Do: MMS8 pg 260 #4-6, 9, 10-13
-in groups: bring newspaper ads, scissors, glue

Math 8 Odyssey: Unit 2.5: Consumer Protection project

We see advertisements everyday and everywhere. How can we tell if they are truthful? How can we tell if we are paying the correct amounts? Are the scanners reading the correct amounts when we want to buy a product?

Consumer protection laws are to protect people and to help ensure that we are paying correct amounts for goods and services.

We will be checking some common ads we get to see if they are advertising correct amounts.

You will:
1) Find, cut, and paste 5 ads on to a piece of paper.

2) For each ad, write down the:
 i) Regular price
 ii) Sale price
 iii) % saved
 iv) Tax (total of and GST and PST for 12%)
 v) Total price

3) Show all work. If the ad is showing an incorrect amount, make sure to note it in your work…and show what the correct amount should be.

4) If there is a mistake in the ad, what can the consumer do about it? What can the company selling the product or service do?

5) Due at the end of class

-quiz next day on fractions, decimals, %

Math 8 Odyssey Unit 2.5B

-house commission project
-tablet/smartphone

Math 8 Odyssey Unit 2.6: RATIOS

A) What is a ratio?

-they are like fractions: they 'compare something to something'

B) How to write it?

-3 ways: ex: 6 out of 7 people like to play Minecraft

-there can be 2 term ratios and 3 term ratios

C) Part-to-part ratios and part-to-whole ratios

D) What are Equivalent ratios?
-means the same as equivalent fractions!

Ex:

-but what if it's a 3 term ratio?...do it the same way!

ex: 1:2:3 = 2:4:6   keep in the same form as the question, and the numbers in the same order.

Do: MMS8: pg 266 #4, 6, 9, 14
MMS8: pg 274 #5, 8, 9, 10, 15, 16, 17

Math 8 Odyssey: unit 2.7: Comparing Ratios and Ratio Word Problems

A) stores and companies often make it difficult to compare similar items. By using ratios, we can find out what is the best deal that works for our families.

Ex: Coke: 2 cups sugar in 4 cups of water
     Pepsi: 3 cups of sugar in 7 cups of water.
     Which one is sweeter?

   ----4 ways to find out:

Ex: Thompson has 3 boys:5 girls
     Killarney has   1 boy : 2 girls.
…If both schools have the same number of students, which school has more boys?

…what percent of the student population are boys in each school?

Ex: Superstore: 5 candies for $4.
        Safeway: 7 candies for $6
…which store is the better deal?

 B) How can we do ratio word problems?
     -most can be solved by writing it as a proportion (showing how 2 ratios are equal) and solving for
     the unknown

  i) How does a proportion look like?
-use variables: lower case, alphabet letters to represent the unknown. Ex: a,b, x, y…DO NOT USE: l,
0, t

-in elementary school: now:

Ex:

Ex:

Ex: Survey says 2 out of 5 boys like the Boston Bruins. Thompson has 100 grade 8 boys. How many
like the Boston Bruins?

Ex: 2 grade 8 boys out of 5 grade 8 students like to play Pokemon. There are 300 grade 8 students.
How many grade 8 boys like to play Pokemon?

Ex: 2 grade 8 boys out of 5 grade 8 students like to play Pokemon. There are 300 grade 8 students.
How many grade 8 boys like to play Pokemon?

Try:

1)

2)

3)

Do: MMS8 pg 284 #5, , 9, 11, 13
    MMS8 pg 291 #4-6. 8. 9, 18
-ratio quiz next day.

Math 8 Odyssey Unit 2.8: Rates

A) Comparing ratio and rates:

B) How to do it?

Ex: Maggie kisses her Cody Simpson poster 10 times in 30 minutes. How many kisses in 1 minute?

Ex: Virginia drives 60 km in 2 hours. How long for 240 kilometers?

Ex: which job pays more…$24 in 3 hours, or $50 in 4 hours?

Ex: Walmart Halloween candy: $15.99 for 125 candies.
    Superstore: $6.99 for 55 candies.   Which one is the better deal?

Do MMS8 pg 298 #4-6, 8-13
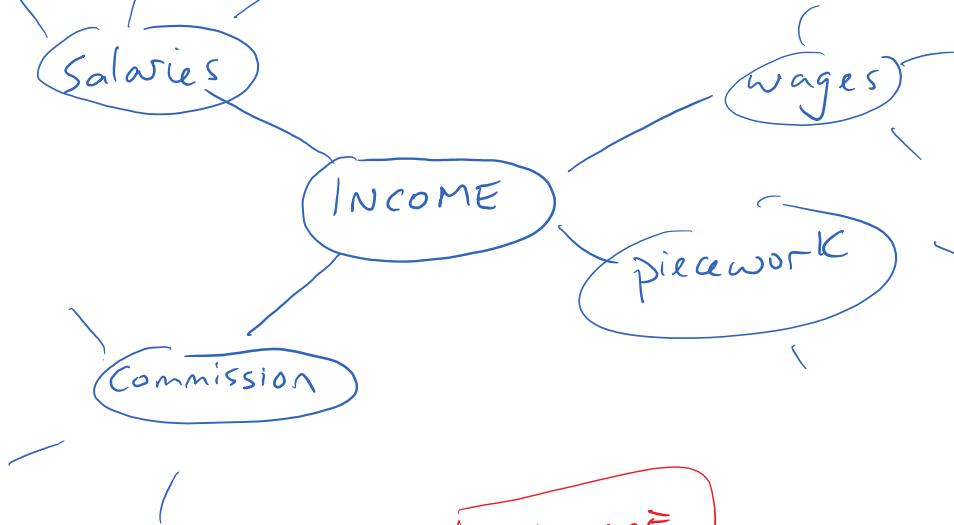   MMS8 pg 303 #5, 7, 8, 11, 14
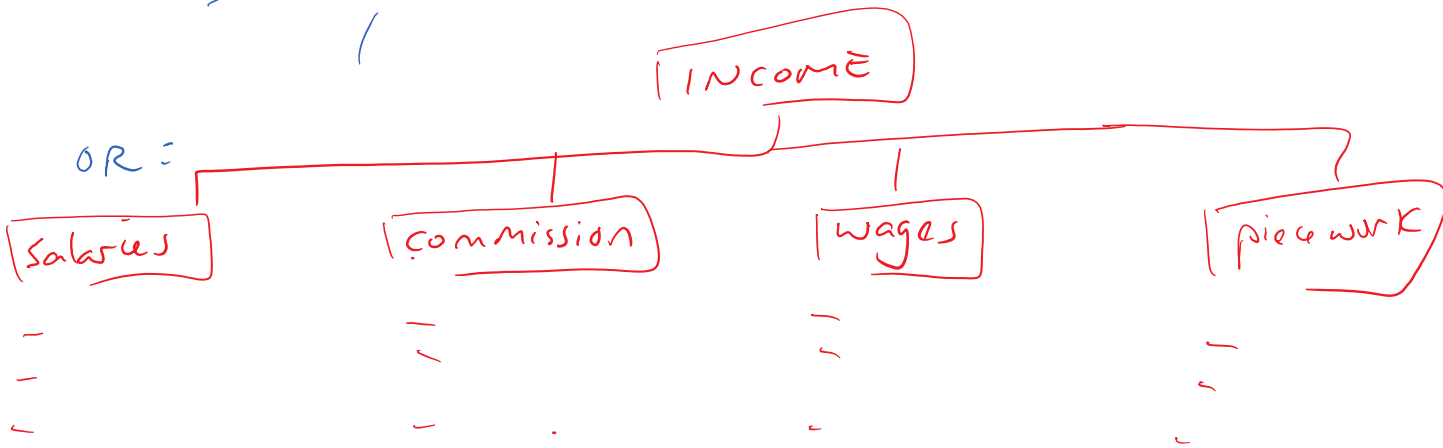-pretest, corrections, test
  -hand in MMS8

-WB: read pg 49-54

A) Draw a web describing the 4 main ways people earn an income.
   Include necessary vocabulary and sample calculations as needed. You
   will use this web for the quiz next period.

Ex:

-show me the web, then start: WB pg 55: choice of 12 questions
-quiz next day Unit 2.1B

A) Vocabulary:

i) Principal:

ii) interest:

iii) annual interest rate:

iv) time:

B) Formula

gives us:

Ex: Go to http://www.scotiabank.com/ca/en/0,,1071,00.html and look at:

Scotiabank® Savings Accelerator Account   Learn more

Right for you if:
✓ You want our highest regular interest rate

Highest rate will be paid on the entire balance as it increases.	Annual Interest Rate*
$250,000 or more	1.000%
$100,000 - $249,999	0.900%
$25,000 - $99,999	0.850%
$5,000 - $24,999	0.800%
$0 - $4,999	0.050%

i) if I had $5020 dollars in this account much interest would I earn in 1 year? How much money would I have in total after 1 year?

ii) How much interest after 3 years? How much in total after 3 years?

iii) if I used this account for my $5020 instead:

Scotiabank® Momentum Savings Account ™   Learn more

Right for you if:
✓ You want to build your savings faster and for longer.

Higher rate will be paid on the entire balance if the balance exceeds $5,000	Regular Interest Rate	Momentum Savings Premium‡	Total Annual Interest Rate
$5,000 or more	0.750%	0.750%	1.500%
$0 - $4,999	0.050%	Not eligible	0.050%

how much interest would I earn in 1 year? What is the total money after 1 year?

iv) how much interest after 3 years? What is the total money after 3 years?

v) On the same webpage, go to 'Scotia PowerSavings for Business'. Assume your business has $30,000 in cash. How much interest do you earn after 17 months?

vi) if you put that $30,000 in a GIC instead:

Special Rate GICs[1]

Product	Rate
17 Month Special Rate GIC	1.40%

how much interest would you earn in 17 months?

C) Other types of questions:
 ex: Professor X borrows $250,000 from Magneto to rebuild his mansion. Professor X repaid $259,000 after 10 months. What was the interest rate?

Ex: How many days will it take $500 to earn $8.28 at 5.75%?

Try:
1) Borrowed $8000 to buy a used MDX. Dealership charges 4% per
   year. You want to pay it off in 2 years.
   a) how much interest did the dealership earn?

   b) how much did you pay in total?

2) You earned $27 in 2 years on an interest rate of 3%. How much
    money(principal) did you have in the account?

 3) You earned $27 in 10 months on an interest rate of 3%. How much
principal did you have in the account?

-do: WB pg 62 #1-2 (left column), 3abcd, 4abcd

-answer:

1) My bank is: _____

2) The name of my savings account is:_____

3) My savings account gives me: _____% interest

4) If my savings account has $1500, I would earn $_____ interest after
   2 years. After 2 years, I will have a total amount of $_____.

A) Compare and contrast simple and compound interest!

B) Formula?

$$A = P\left(1 + \frac{r}{n}\right)^{nt} \ where \ A =$$

P =

r =

n =

t =

Note: semi-annually means n =
quarterly   n =
monthly   n =
daily   n =

C) How to do these questions?

Ex: you borrowed $6500 at 5% compounded semi-annually for 5 years.
i) What total amount do you need to pay back?

ii) What was the interest?

Ex: Jeffrey is 13 years old. He wants $1,000,000 but the time he is 65.
Interest rate is 3% compounded semi-annually. How much money does
he need to reach his goal?

-do: WB: pg 67 #1abc, 2abc, pick 5 from #3-16

-bonus! If $A = P\left(1 + \dfrac{r}{n}\right)^{nt}$
gives an appreciated value over time (ie:
final value went UP in value as time goes on), what do you think the
equation would be for DEPRECITION (loses value over time)?

Math 8E Unit 2.4B: Budgeting