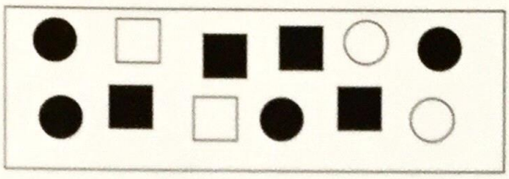
Name:

Ratio, Rate, Proportion and Percent

Learning Intentions: I understand what rates/ratios and proportions are			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

I. RATIO: Write the following ratios in *lowest terms*



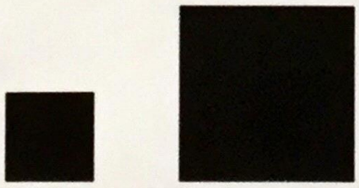
circles to squares	1:1
shaded shapes to all shapes	2:3
shaded shapes to unshaded shapes	2:1
shaded circles to not shaded circles	2:1
shaded circles to all circles	2:3
shaded circles to shaded squares	1:1

RATE: Express the following as a rate in lowest terms:

One hundred kilometers in two hours	50 km/h
Four dollars and fifty cents for three markers	$1.50 per marker
Two hundred forty words in four minutes	60 wpm
Eighty meters in five seconds	16 mps
Jim works for $900.00 per/hr. How much does he make per second?	$0.25 /h

Learning Intentions: I can create equivalent ration / proportions			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

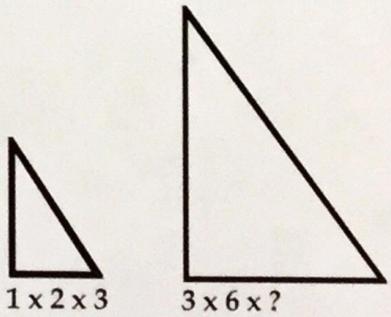
III. PROPORTION: Fill in the missing value: (show your work)



2 x 2 4 x ?

scale factor x2

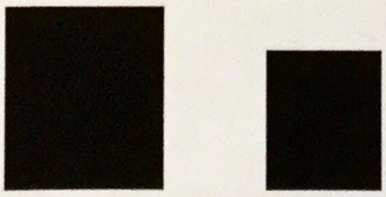
4



1 x 2 x 3 3 x 6 x ?

9

scale factor x3



36 x 24 15 x ?

10

scale factor x 2.4

Learning Intentions: I understand the meaning of percent *(less than 100% and greater than 100%)* I can convert percent's to fractions and decimals and can convert fractions and decimals to percent's			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

IV PERCENT: Write the percent. (no calculator)

Fraction (in lowest terms)	Decimal	Percent
$^{9}/_{25}$	0.36	36%
$\frac{60}{100} = \frac{6}{10} = \frac{3}{5}$	0.60	60%
$2\frac{5}{10} = 2\frac{1}{2} = \frac{5}{2}$	2.5	250%
$^{112}/_{224} = \frac{1}{2}$	0.5	50%
$\frac{75}{100} = \frac{3}{4}$	0.75	75%

Learning Intentions: I can calculate percent's of numbers using mental math and can show my thinking *(taxes, commissions, discounts and tips)*			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

Use mental math. Show your thinking! (No calculator or computation!)

8 % commission on $ 60	56 % discount on $120	95% of 40
10% is 6 5% is 3 1% is 0.6 8% is 4.80	50% is 60 10% is 12 5% is 6 1% is 1.20 67.20	10% is 4 5% is 2 40-2= 38

Learning Intentions: I can estimate percent's of numbers *(taxes, commissions, discounts and tips)* I can calculate the percent of numbers using a calculator *(taxes, commissions, discounts and tips)*			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

Estimate the tip or discount, then calculate the tax and final price (show your estimation work)

A 15% tip on a bill of $28.99 *Estimate the Tip*	A 20% discount on $132.56 *Estimate the Discount*	A 90% discount on $5.00 *Estimate the Discount*
10% of 30 is 3 5% is 1.5 4.50	10% of 130 is 13 20% is 26	10% is 0.50 90% is 4.50
12%tax on the above bill not including tip *Tax:* 3.47 *Final Price:* 32.46	*7% tax on the above price after the discount* *Tax:* 7.42 *Final Price:* 113.42	*80% Tax on the above price after the discount* *Tax:* 0.4 *Final Price:* 0.9

Learning Intentions: I can solve problems that involve percent, rates, ration and proportions			
BEGINNING *(Not Yet)*	**DEVELOPING** *(A Good Start)*	**APPLYING** *(Almost There)*	**EXTENDING** *(You Got It!)*

Solve: **(Try to use numbers word and pictures to show your thinking)**

In a park, the ratio of ducks to geese is 16 to 9. Explain what this means?

For every 16 ducks there are 9 geese. For every 25 birds 16 are ducks and 9 are geese

If there were about 70 geese in the above mentioned park. About how many ducks would there be? **(show your work)**

Ducks / Geese $\frac{16}{9} = \frac{124.4}{70}$ about 124 ducks

There are about 300 total ducks and geese in the park. About how many are geese? **(show your work)**

$\frac{9}{25}$ of $\frac{300}{1} = \frac{2700}{25} =$ 108 ducks

Bulk candy is on sale for $1.20 /100g. (show your work)
(Can you solve some of the following question in different ways?)

How much will 50g cost?

$\frac{\$1.20}{100g} = \frac{0.60}{50g} = \$0.60/50g$

How much will 75g cost?

$\frac{\$1.20}{100g} = \frac{0.9}{75g} = \$0.90/75g$

How much will 32 grams cost?

$\frac{\$1.20}{100g} = \frac{0.384}{32g} = \$0.38/32g$

Mr. Fisher bought the above bulk candy when it was on sale for 20% off per/100g. He spent $ 8.16 on candy. What was the sale price and how many grams did he buy?

Sale price per 100 g is 0.96 /100g

20% of 1.20 = 0.24

Mr. Fisher got 850 grams

$1.20 - 0.24 = 0.96

$\frac{\$8.16}{850\ ?} = \frac{0.96}{100}$

Extra:

Two Boats, Misty and Surfer, leave the same dock and travel north. After one hour, Misty has traveled 20 km and Surfer has traveled 32 km. Then each boat stops and sails east. When misty has traveled 15 km east, how far has Surfer traveled in total since it left the dock?

Misty $\frac{20\text{ km}}{32\text{ km}} = \frac{15\text{ km}}{24\text{ km}}$

Surfer

$32\text{km} + 24\text{ km} = 56\text{ km}$