Gr. 9 Applied Math Review

Integers:

Adding and Subtracting Integers: **REMEMBER - (-) = + and +(-) = -**

eg. (6) + (-3) =
(-2) + (10) =
(5) - (- 4) =
(-7) – (3) =

Multiplying Integers: ***If the signs are the same, the product is positive. If they're different, the answer is negative***

(+) X (+) = (+) positive times a positive is **positive**
(-) X (+) = (-) negative times a positive is **negative**
(+) X (-) = (-) positive times a negative is **negative**
(-) X (-) = (+) negative times a negative is **positive**

Dividing Integers: ***Same rules as multiplication (just check to see if the signs are the same or different)***

1. Add

a) (4) + (-2) b) (51) + (-41) c) (2) + (6) d) (-3) + (7)

2. Subtract

a) (6) - (12) b) (5) - (-2) c) (-3) - (7) d) (-45) - (-45)

3. Multiply

a) (5) X (9) b) (-4) X (7) c) (- 11) X (- 12) d) (12) X (-5)

4. Divide

a) (25) ÷ (5) b) (-18) ÷ (3) c) (- 72) ÷ (- 8) d) (-35) ÷ (7)

Decimals:

Write in decimal form. eg. $\frac{3}{10} = 3 \div 10 = 0.3$ (use a calculator if needed)

5 a) $\frac{24}{100}$ b) $\frac{12}{50}$ c) $\frac{2}{5}$ d) $\frac{9}{15}$ e) $\frac{3}{4}$

Fractions: $\frac{1}{4}$ - numerator
4 - denominator

Reducing to lowest terms: - find a common factor that will divide evenly into the top and into the bottom

eg. $\frac{5}{15}$

Reduce to lowest terms.

6. a) $\frac{6}{12}$ b) $\frac{9}{81}$ c) $\frac{12}{36}$ d) $\frac{8}{24}$

Adding or Subtracting Fractions: When adding or subtracting fractions you need to have a common denominator.

eg. $\frac{1}{2} + \frac{1}{3} =$

Add or Subtract.

8. a) $\frac{1}{5} + \frac{1}{5}$ b) $\frac{2}{5} + \frac{1}{2}$

c) $\frac{3}{5} - \frac{1}{2}$ d) $\frac{7}{8} - \frac{3}{4}$

Multiplying Fractions: When multiplying fractions, multiply the numerators then multiply the denominators.

eg. $\frac{5}{6} \times \frac{4}{5} =$ --> When possible reduce to lowest terms

Multiply.

9. a) $\frac{1}{5} \times \frac{1}{5}$ b) $\frac{2}{5} \times \frac{11}{21}$ c) $\frac{4}{15} \times \frac{5}{10}$

Dividing Fractions: When dividing fractions change the sign to multiplication and invert the 2nd fraction

eg. $\frac{5}{6} \div \frac{1}{3} =$ -reduce to lowest terms

Divide.

10. a) $\frac{1}{5} \div \frac{1}{5}$ b) $\frac{2}{5} \div \frac{1}{2}$ c) $\frac{4}{15} \div \frac{5}{7}$

Percent:

Percent means simply out of 100.
eg. If you received a mark of 80 on a test out of 100 you received a mark of 80%.

$\frac{80}{100} = 80\%$ $\frac{17}{100} =$

When you calculate percents from fractions that are not out of one hundred you divide the top (numerator) by the bottom (denominator), and multiply the decimal by 100.

Eg. $\frac{25}{50} = 0.5$ $\frac{24}{60} =$

0.5 X 100 = 50%

Write as percents.

11. a) $\frac{6}{100}$ b) $\frac{7}{28}$ c) $\frac{12}{25}$

Converting percents to decimals - just divide the percent by 100 **OR** move the decimal 2 places to the left.

Eg. 25% = 25 ÷ 100 42% =
= 0.25

Convert the percent to a decimal.
12. a) 67% b) 3% c) 14% d) 6%

Converting a percent to a fraction: - when converting a percent to a fraction use 100 as the denominator and if possible convert the fraction to lowest terms.

Eg. $50\% = \frac{50}{100} = \frac{50 \div 50}{100 \div 50} = \frac{1}{2}$

Convert the percent to a fraction.

13. a) 10% b) 15% c) 14% d) 9%

Percent problems (*finding the percent OF a number)*:

Eg. 1 25% of 40 = **Convert the percent to a decimal and multiply**
=

Eg. 2 Skis are on sale at 40% off. A pair of skis regularly sells for $180. What is the price after the discount?

Regular price = $ 180 **Discount** 40 % of 180 =

Sale Price =

Therefore the price of the skis after discount is

Percent Problems:

14. a) 25% of 50 b) 15% of 40 c) 5% of 35 d) 47% of 150

(i) The regular price of a bike is $227.50. It is on sale at 15% off. What is the new sale price?

Can you think of another way to solve this problem?