**EnVision Math – Topic 11**

FRACTION

HANDBOOK

**NOTICE:** Please use at ALL times… when fractions just don’t make any sense.

Name: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Fraction of Fraction Problems**

**HINT!! “OF” in math = MULTIPLY**

1. **What is of 3? (HINT!! put the whole number over 1)**

\* = change to a ***mixed number***

1. **What is of ?**

\* =

1. **What is of 12?**

8

\* = change to a ***mixed numbe***r or a ***whole number***

**Multiplying Fractions and Whole Numbers**

1. Put the ***Whole Number over 1***.

\* 3 becomes \*

2. ***MULTIPLY*** the ***NUMERATORS***.

\* =

3. ***MULTIPLY*** the ***DENOMINATORS***.

\* =

\* If your answer is an improper fraction…please change into a mixed number!!

**Fraction of Whole Number Problems**

**Cross - Divide…then Multiply**

1. ***DIVIDE*** the ***whole number*** of the fraction by the ***denominator***.

of 21

21 ÷ 3 = 7

1. Then ***MULTIPLY*** the answer (from step 1) by the ***numerator*** of the fraction.

of 21

14

7 × 2 =

**Fraction of Whole Number Problems**

To find a ***PART…***

Example: If 21 counters are the whole set, how many is of the set?

of 21 = 14

To find a ***WHOLE…***

Example: If 9 counters are of the set, how many counters are in the whole set?

of 9 = 21

**Estimating Products of Fractions**

Estimate: **3 x**

***Remember***… When the fractional part is **greater than or equal to**  you round the whole number up…**less than** keep it the same.

* = greater than so you would round the 6 to **7** wholes

21

* 3 x 7 =

Estimate: x **19**

We need to use compatible numbers here…for the ***whole number*** and the ***denominator*** of the fraction.

* For 19…the nearest multiple of 4 is 20
* Rewrite the problem as: x **20**

of 20 = 15

15

20 ÷ 4 = 5 and 5 x 3 =

**Multiplying Fractions**

**FINALLY! Believe it or not…multiplying fractions is EASY**

1. ***Multiply*** **BOTH** ***Numerators***.

\* =

1. ***Multiply*** **BOTH** ***Denominators***.

\* =

or

**Multiplying Mixed Numbers**

1. Begin by changing the ***MIXED NUMBERS*** into ***IMPROPER FRACTIONS***.

\* becomes \*

2. ***MULTIPLY*** the ***NUMERATORS.***

\* =

3. ***MULTIPLY*** the ***DENOMINATORS***.

\* =

4. Changethe ***IMPROPER FRACTION*** into a ***MIXED NUMBER***.

becomes

**Dividing Fractions**

\* If you start with the fractions:

1. Begin by taking the ***second fraction*** and ***FLIP*** (fancy word is you’re finding the ***reciprocal*** of the fraction) it.

1. Once the second fraction is flipped, it now becomes a ***MULTIPLICATION problem***…follow the rules for multiplying fractions.

**=**

1. Change the improper fraction into a ***MIXED NUMBER*** or a ***WHOLE NUMBER***.

6

=