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Math Self-Help Guide Answer Sheet

Terms and Skills Review

Add: 25 + 36 + 72 = 133 **SUM**
Subtract: 1,362 − 523 = 839
Multiply: 18 x 4 = 72 **PRODUCT**
Divide: 732 ÷ 3 = 244

Order of Operation

( )	**Me First!**
23 – (3 + 6) + 4	15 + (9 – 7) – 3
23 – 9 + 4	15 + 2 – 3
14 + 4	17 – 3
18	14

Rounding

Rule: *Less than 5* ***stays the same***
5 or more ***round up!***

Place Value:

hundred thousands	***ten thousands***	***one thousands,***	***hundreds***	***tens***	***ones***

Round to the Hundreds:

1,**3**12	**1,300**	**1**58	**200**	26,**3**87	**26,400**

Round to the Thousands:

2,681	**3,000**	**1**,920	**2,000**	3**8**,527	**39,000**

Averages

1) Add all numbers together
2) Divide by the total number of units added
Test Scores to Average:

72, 80, 93, 97, 78	72 + 80 + 93 + 97 + 78 = 420	420 ÷ 5 = **84**
83, 94, 76, 98, 89	83 + 94 + 76 + 98 + 89 = 440	440 ÷ 5 = **88**

Fractions:

3 **numerator** (part)
4 **denominator** (whole)

Equivalent Fractions

$\frac{3}{6} = \frac{12}{24}$ $\frac{2}{5} = \frac{6}{15}$ $\frac{7}{21} = \frac{21}{63}$

Simplify Fractions

$\frac{10}{15} \div \frac{5}{5} = \frac{2}{3}$ $\frac{12}{36} \div \frac{12}{12} = \frac{1}{3}$

$\frac{24}{32} \div \frac{4}{4} = \frac{6}{8} \div \frac{2}{2} = \frac{3}{4}$ $\frac{18}{24} \div \frac{2}{2} = \frac{9}{12} \div \frac{3}{3} = \frac{3}{4}$

Improper Fractions

$\frac{5}{2} = 2\frac{1}{2}$ $\frac{12}{5} = 2\frac{2}{5}$ $\frac{7}{3} = 2\frac{1}{3}$

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$\frac{17}{4} = 4\frac{1}{4}$ $\frac{21}{9} = 2\frac{3}{9} = 2\ \frac{1}{3}$

Ordering Fractions
From Smallest to Greatest

$\frac{2}{3}\ \ \frac{1}{6}\ \ \frac{1}{2}$ **Use 6**

$\frac{2}{3} = \text{x}\ \frac{2}{2} = \frac{4}{6}$
$\frac{1}{6} = \frac{1}{6}$
$\frac{1}{2} = \text{x}\ \frac{3}{3} = \frac{3}{6}$

$\frac{3}{4}\ \ \frac{2}{8}\ \ \frac{1}{3}$ **Use 24**

$\frac{3}{4}\ \text{x}\ \frac{6}{6} = \frac{18}{24}$
$\frac{2}{8}\ \text{x}\ \frac{3}{3} = \frac{6}{24}$
$\frac{1}{3}\ \text{x}\ \frac{8}{8} = \frac{8}{24}$

$\frac{5}{6}\ \ \frac{3}{5}\ \ \frac{2}{3}$ **Use 30**

$\frac{5}{6}\ \text{x}\ \frac{5}{5} = \frac{25}{30}$
$\frac{3}{5}\ \text{x}\ \frac{6}{6} = \frac{18}{30}$
$\frac{2}{3}\ \text{x}\ \frac{10}{10} = \frac{20}{30}$

Adding Fractions

$\frac{3}{8} + \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$
$\frac{6}{10} + \frac{5}{10} = \frac{11}{10} = 1\frac{1}{10}$
$\frac{7}{9} + \frac{1}{9} = \frac{8}{9}$

Decimals:

Decimal Place Value

hundreds tens ones • tenths hundredths thousandths

Round to the Tenths

3.32	3.3
21.78	21.8
0.873	0.9

Comparing Decimals
Largest to Smallest

1.15, 0.871, 0.197	1.15	1.15, 0.871, 0.197
	0.871	
	0.197	

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1.621, 3.5, 1.67	1.621 3.5 1.67	3.5, 1.67, 1.62
0.713, 2.17, 1.5	0.713 2.17 1.5	2.17, 1.5, 0.713

Adding Decimals

37.00 + 2.78 + 0.01 + 0.30 = 40.09
2.41 + 0.30 + 14.20 = 16.91
0.13 + 16.00 + 3.07 = 19.20

Subtracting Decimals

1.37 – 0.62 = 0.75
2.160 – 1.007 = 1.153
1.00 – 0.43 = 0.57
4.0 – 1.3 = 2.7

Comparing Percents, Decimals, & Fractions:

$\frac{12}{100}$	0. 12	**12** %
$\frac{45}{100}$	0. 45	**45** %
$\frac{78}{100}$	0. 78	**78** %
$\frac{25}{100}$	0. 25	**25** %
$\frac{31}{100}$	0. 31	**31** %
$\frac{50}{100}$	0. 50	**50** %

Find the Percent

0.72 = **72 %**
0.321 = **32 %**
0.78 = **78 %**
0.079 = **8 %**

Find the Decimal

52 % = **0.52**
37 % = **0.37**
8 % = **0.08**
12 % = **0.12**

Find the Fraction

0.72 = $\frac{72}{100}$
0.30 = $\frac{30}{100}$
0.57 = $\frac{57}{100}$
23 % = $\frac{23}{100}$
3 % = $\frac{3}{100}$
61 % = $\frac{61}{100}$

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Finding the Percentage:

25 is what percent of 90? **.27777**

25	÷	90	=	28 %
(part)		(whole)		(percentage)

12 is what percent of 36? **.3333** **33%**
23 is what percent of 85? **.27058** **27%**
41 is what percent of 68? **.60294** **60%**

More Percentage Problems:

What is 75 % of 50? **37.5**

.75	**x**	50	=	**37.5**
Change the Percent to a Decimal		total		

What is 30 % of 75? **22.5**
What is 85 % of 20? **17**
What is 90 % of 45? **40.5**

Percentages of a Group

1) **Add** the numbers together
2) Plug the numbers into the **formula**

_____	÷	_____	=	_____ %
(part)		(whole)		(percentage)

What is the percentage of phone calls this week that were received on Wednesday?

Monday - 15
Tuesday - 23
Wednesday - 28 $\frac{28}{139}$ **= .2014388** **20%**
Thursday - 41
Friday - 32

What is the percentage of physicals this week that were given on Friday?

Monday - 35
Tuesday - 14
Wednesday - 27 $\frac{21}{105}$ **= .20** **20%**
Thursday - 8
Friday - 21

Solving for X:

3x = 24 **x = 8**
7x = 56 **x = 8**
25 – x = 13 + 2 **x = 10**
15 – 7 = 2x **x = 4**
17 + x = 7 + 25 **x = 15**