FOR STUDENTS ENTERING: 7TH GRADE

St. Marys Catholic Middle School

June 2017

SMCMS Parents and Students;

Attached you will find a packet of math problems that should be completed during the summer months. WE ARE ASKING THE STUDENTS TO COMPLETE THE CIRCLED PROBLEMS AND THE ENTIRE LAST PAGE IN THIS PACKET. All of the problems are math concepts that were covered during the 2016-17 school year in your/your child's math class. The purpose of this summer assignment is to help you retain the information that was learned over the past 9 months. All math classes are stepping stones for the next class so it is important that knowledge is retained from year to year.

The packet should be completed prior to the start of the 2017-18 school year. The packet information may be taken for a grade in the next school year. In order to help students, math teachers from SMCMS and ECCHS will be available during July and August to help students with any difficulty they encounter. The schedule of dates and times will be available on www.eccss.org later in June.

Please contact Mr. Schneider at schneiderj@eccss.org or 834-2665 x214 if you have any questions.

SPECIAL NOTE: COMPLETE ONLY THE CIRCLED PROBLEMS AND THE ENTIRE LAST PAGE. PLEASE SHOW ALL WORK!

Complete all circled problems

Rounding

When you round to a particular place, look at the digit to the right of that place. If it is 5 or more, the digit in the place you are rounding to will increase by 1. If it is less than 5, the digit in the place you are rounding to will stay the same.

EXAMPLE

a. Round 1.627 to the nearest whole number.

The digit to the right of the units place is 6, so 1.627 rounds up to 2.

b. Round 12,034 to the nearest thousand.

The digit to the right of the thousands place is 0, so 12,034 rounds down to 12,000.

c. Round 2.7195 to the nearest hundredth.

The digit to the right of the hundredths place is 9, so 2.7195 rounds up to 2.72.

d. Round 0.060521 to the place of the underlined digit.

The digit to the right of 5 is 2, so 0.060521 rounds down to 0.0605.

EXERCISES

Round to the nearest thousand.

1. 105,099	**2.** 10,400	**3.** 79,527,826	**4.** 79,932	**5.** 4,312,349

Round to the nearest whole number.

6. 135.91	**7.** 3.001095	**8.** 96.912	**9.** 101.167	**10.** 299.9

Round to the nearest tenth.

11. 82.01	**12.** 4.67522	**13.** 20.397	**14.** 399.95	**15.** 129.98

Round to the nearest hundredth.

16. 13.458	**17.** 96.4045	**18.** 0.699	**19.** 4.234	**20.** 12.09531

Round to the place of the underlined digit.

21. 7.0615	**22.** 5.77125	**23.** 1,522	**24.** 0.91952	**25.** 4.243
26. 236.001	**27.** 352	**28.** 3.495366	**29.** 8.07092	**30.** 0.6008
31. 409	**32.** 32,951,888	**33.** 2.5784	**34.** 862	**35.** 19.32
36. 918	**37.** 7,735	**38.** 25.66047	**39.** 983,240,631	**40.** 27
41. 0.003771	**42.** 0.0649	**43.** 12.777	**44.** 1,759,230	**45.** 20,908

Adding and Subtracting Decimals

You add or subtract decimals just as you do whole numbers. You line up the decimal points and then add or subtract. If you wish, you can use zeros to make the columns even.

EXAMPLE

Find each sum or difference.

a. 37.6 + 8.431

$$\begin{array}{r} 37.6 \\ +\ 8.431 \\ \hline \end{array} \rightarrow \begin{array}{r} 37.600 \\ +\ 8.431 \\ \hline 46.031 \end{array}$$

b. 8 − 4.593

$$\begin{array}{r} 8. \\ -\ 4.593 \\ \hline \end{array} \rightarrow \begin{array}{r} 8.000 \\ -\ 4.593 \\ \hline 3.407 \end{array}$$

c. 8.3 + 2.99 + 17.5

$$\begin{array}{r} 8.3 \\ 2.99 \\ +\ 17.5 \\ \hline \end{array} \rightarrow \begin{array}{r} 8.30 \\ 2.99 \\ +\ 17.50 \\ \hline 28.79 \end{array}$$

EXERCISES

Find each sum or difference.

1. $\begin{array}{r} 39.7 \\ -\ 36.03 \\ \hline \end{array}$

2. $\begin{array}{r} 1.08 \\ -\ 0.9 \\ \hline \end{array}$

3. $\begin{array}{r} 6.784 \\ +\ 0.528 \\ \hline \end{array}$

4. $\begin{array}{r} 5.01 \\ -\ 0.87 \\ \hline \end{array}$

5. $\begin{array}{r} 13.02 \\ +\ 23.107 \\ \hline \end{array}$

6. $\begin{array}{r} 8.634 \\ +\ 1.409 \\ \hline \end{array}$

7. $\begin{array}{r} 2.1 \\ -\ 0.5 \\ \hline \end{array}$

8. $\begin{array}{r} 8.23 \\ -\ 3.1 \\ \hline \end{array}$

9. $\begin{array}{r} 1.05 \\ +\ 12.9 \\ \hline \end{array}$

10. $\begin{array}{r} 2.60 \\ +\ 23.107 \\ \hline \end{array}$

11. $\begin{array}{r} 0.1 \\ 58.21 \\ +\ 1.9 \\ \hline \end{array}$

12. $\begin{array}{r} 12.2 \\ 3.06 \\ +\ 0.5 \\ \hline \end{array}$

13. $\begin{array}{r} 9.42 \\ 3.6 \\ +\ 21.003 \\ \hline \end{array}$

14. $\begin{array}{r} 15.22 \\ 7.4 \\ +\ 8.125 \\ \hline \end{array}$

15. $\begin{array}{r} 3.7 \\ 20.06 \\ +\ 16.19 \\ \hline \end{array}$

16. $\begin{array}{r} 12.22 \\ 9.8 \\ +\ 2.375 \\ \hline \end{array}$

17. 76.39 − 8.47

18. 8.7 + 17.03

19. 32.403 + 12.06

20. 20.5 + 11.45

21. 8.9 − 4.45

22. 1.245 + 5.8

23. 3.9 + 6.57

24. 14.81 − 8.6

25. 11.9 − 2.06

26. 3.45 + 4.061

27. 8.29 + 4.3

28. 7.06 − 4.235

29. 6.02 + 4.005

30. 7.05 − 3.5

31. 1.18 + 3.015

32. 2.304 − 0.87

33. 5.002 − 3.45

34. 6.8 + 3.57

35. 0.23 + 0.091

36. 0.5 − 0.18

37. 8.3 + 2.99 + 17.52

38. 9.5 + 12.32 + 6.4

39. 4.521 + 1.8 + 3.07

40. 3.602 + 9.4 + 24

41. 11.6 + 8.05 + 5.13

42. 7.023 + 1.48 + 3.9

43. 57 + 0.6327 + 189.007

44. 741 + 6.08 + 0.0309

45. 0.045 + 16.32 + 8.6

46. 4.27 + 6.18 + 0.91

47. 3.856 + 14.01 + 1.72

48. 11.45 + 3.79 + 23.861

Operations With Fractions

Complete all circled problems showing all work.

To add or subtract fractions, use a common denominator. The common denominator is the least common multiple of the denominators.

1 EXAMPLE Simplify $\frac{2}{3} + \frac{3}{5}$.

$\frac{2}{3} + \frac{3}{5} = \frac{10}{15} + \frac{9}{15}$ For 3 and 5, the least common multiple is 15. Write $\frac{2}{3}$ and $\frac{3}{5}$ as equivalent fractions with denominators of 15.

$= \frac{19}{15}$ or $1\frac{4}{15}$ Add the numerators.

2 EXAMPLE Simplify $5\frac{1}{4} - 3\frac{2}{3}$.

$5\frac{1}{4} - 3\frac{2}{3} = 5\frac{3}{12} - 3\frac{8}{12}$ Write equivalent fractions.

$= 4\frac{15}{12} - 3\frac{8}{12}$ Write $5\frac{1}{4}$ as $4\frac{15}{12}$ so you can subtract the fractions.

$= 1\frac{7}{12}$ Subtract the fractions. Then subtract the whole numbers.

To multiply fractions, multiply the numerators and multiply the denominators. You can simplify by using a greatest common factor.

3 EXAMPLE Simplify $\frac{3}{4} \cdot \frac{8}{11}$.

Method 1 $\frac{3}{4} \cdot \frac{8}{11} = \frac{24}{44} = \frac{24 \div 4}{44 \div 4} = \frac{6}{11}$

Divide 24 and 44 by 4, their greatest common factor.

Method 2 $\frac{3}{{}_{1}\cancel{4}} \cdot \frac{\cancel{8}^{2}}{11} = \frac{6}{11}$

Divide 4 and 8 by 4, their greatest common factor.

To divide fractions, use a reciprocal to change the problem to multiplication.

4 EXAMPLE Simplify $3\frac{1}{5} \div 1\frac{1}{2}$.

$3\frac{1}{5} \div 1\frac{1}{2} = \frac{16}{5} \div \frac{3}{2}$ Write mixed numbers as improper fractions.

$= \frac{16}{5} \cdot \frac{2}{3}$ Multiply by the reciprocal of the divisor.

$= \frac{32}{15}$ or $2\frac{2}{15}$ Simplify.

EXERCISES

Perform the indicated operation.

1. $\frac{3}{5} + \frac{4}{5}$
2. $\frac{1}{2} + \frac{2}{3}$
3. $4\frac{1}{2} + 2\frac{1}{3}$
4. $6\frac{4}{5} + 1\frac{1}{9}$
5. $5\frac{3}{4} + 4\frac{2}{5}$
6. $\frac{4}{5} - \frac{1}{5}$
7. $\frac{2}{3} - \frac{3}{7}$
8. $5\frac{1}{2} - 3\frac{2}{5}$
9. $8\frac{2}{5} - 1\frac{1}{10}$
10. $7\frac{3}{4} - 4\frac{4}{5}$
11. $\frac{3}{4} \cdot \frac{1}{2}$
12. $\frac{9}{2} \cdot \frac{6}{7}$
13. $3\frac{4}{5} \cdot 10$
14. $2\frac{1}{2} \cdot 3\frac{1}{5}$
15. $6\frac{3}{4} \cdot 5\frac{2}{3}$
16. $\frac{1}{2} \div \frac{1}{3}$
17. $\frac{6}{5} \div \frac{3}{5}$
18. $8\frac{1}{2} \div 4\frac{1}{4}$
19. $5\frac{5}{6} \div 2\frac{1}{3}$
20. $3\frac{1}{6} \div 1\frac{3}{4}$
21. $7\frac{1}{2} + 3\frac{3}{4}$
22. $3\frac{2}{3} \div \frac{1}{2}$
23. $\frac{8}{9} - \frac{2}{3}$
24. $7\frac{2}{7} \div 2\frac{3}{7}$
25. $\frac{7}{8} \cdot 5\frac{1}{2}$
26. $2\frac{3}{4} \cdot \frac{5}{8}$
27. $8 - 5\frac{5}{6}$
28. $14\frac{1}{4} - 5\frac{2}{3}$
29. $4\frac{2}{3} + 1\frac{6}{11}$
30. $5\frac{1}{4} \cdot 8$
31. $3\frac{1}{2} \div 6$
32. $8 \div 3\frac{5}{6}$

Dividing Decimals by Decimals

To divide with a decimal divisor, multiply it by the smallest power of ten that will make the divisor a whole number. Then multiply the dividend by that same power of ten.

EXAMPLE

Find each quotient.

a. 3.348 ÷ 6.2

Multiply by 10.

```
      0.54
6.2.)3.3.48
    −3 1 0
      2 48
     −2 48
         0
```

b. 2.4885 ÷ 0.35

Multiply by 100.

```
       7.11
0.35.)2.48.85
     −2 45
        3 8
       −3 5
         35
        −35
          0
```

c. 0.0576 ÷ 0.012

Multiply by 1,000.

```
        4.8
0.012.)0.057.6
      −48
        9 6
       −9 6
          0
```

EXERCISES

Divide.

1. 268.8 ÷ 3.2
2. 123.5 ÷ 1.9
3. 135.6 ÷ 0.3
4. 170.2 ÷ 2.3
5. 252.8 ÷ 7.9
6. 10.26 ÷ 5.7
7. 71.53 ÷ 2.3
8. 16.12 ÷ 3.1
9. 24.18 ÷ 7.8
10. 14.49 ÷ 6.3
11. 134.42 ÷ 5.17
12. 89.96 ÷ 3.46
13. 160.58 ÷ 5.18
14. 106.59 ÷ 6.27
15. 62.4 ÷ 3.9
16. 260.4 ÷ 8.4
17. 316.8 ÷ 7.2
18. 162.4 ÷ 2.9
19. 1.512 ÷ 0.54
20. 3.225 ÷ 0.43
21. 2.484 ÷ 0.69
22. 511.5 ÷ 5.5
23. 0.992 ÷ 0.8
24. 4.53 ÷ 0.05
25. 3.498 ÷ 0.06
26. 59.2 ÷ 0.8
27. 2.198 ÷ 0.07
28. 14.28 ÷ 0.7
29. 1.98 ÷ 0.5
30. 26.36 ÷ 0.04
31. 3.922 ÷ 7.4
32. 23.52 ÷ 0.98
33. 71.25 ÷ 7.5
34. 114.7 ÷ 3.7
35. 0.832 ÷ 0.52
36. 1.125 ÷ 0.09
37. 9.666 ÷ 2.7
38. 1.456 ÷ 9.1
39. 0.4374 ÷ 1.8

Name:_____

Positive and Negative Integers with Operations

Adding Rules:

Positive + Positive = Positive	5 + 4 = 9
Negative + Negative = Negative	(- 7) + (- 2) = - 9
	(- 7) + 4 = -3
Sum of a negative and a positive number	6 + (-9) = - 3
Use the sign of the larger number and subtract	(- 3) + 7 = 4
	5 + (-3) = 2.

Subtracting Rules:

Negative - Positive = Negative	(- 5) - 3 = -5 + (-3) = -8
Positive - Negative = Positive + Positive = Positive	5 - (-3) = 5 + 3 = 8
Negative - Negative = Negative + Positive =	(-5) - (-3) = (-5) + 3 = -2
Use the sign of the larger number and subtract *(Change double negatives to a positive shown in red.)*	(-3) - (-5) = (-3) + 5 = 2

This is simply a rules/examples sheet. There are <u>no</u> problems to do on this sheet.

Complete all problems. Show all work.

Integer Addition and Subtraction (D)

(-8) - (-7) =	(-4) + (-5) =	2 + 0 =
(-2) - 4 =	3 + (-6) =	2 - 2 =
2 - (-10) =	(-4) + (-10) =	(-7) + 5 =
9 + (-8) =	2 + 9 =	8 + 5 =
(-9) - 0 =	(-10) - (-5) =	2 - (-3) =
6 + (-1) =	9 + (-7) =	(-5) - (-5) =
7 - 9 =	6 + (-10) =	0 - 2 =
(-1) + (-6) =	8 - (-8) =	6 - (-9) =
(-3) + 4 =	3 + 8 =	(-1) + (-2) =
(-9) + 0 =	(-6) - 8 =	1 - 9 =
(-7) + 10 =	7 - 10 =	5 + 0 =

Complete all problems. Show all work.

Integer Addition and Subtraction (D)

0 + (-91) =	79 + (-42) =	(-15) + 16 =
(-15) + 99 =	26 - (-81) =	4 + (-93) =
(-67) + 58 =	(-74) + 97 =	(-63) - (-15) =
15 + (-52) =	77 - (-62) =	16 - (-35) =
67 - (-9) =	2 - 71 =	28 - 22 =
(-8) + (-54) =	18 - 73 =	53 + 71 =
(-27) + (-65) =	39 - 24 =	(-23) - 41 =
(-8) - 30 =	(-5) + (-30) =	(-14) - 38 =
65 - (-96) =	44 + (-31) =	55 + (-69) =
(-98) - (-64) =	13 + 12 =	(-65) - 50 =
(-13) + (-78) =	44 + 22 =	(-44) + 59 =