

SUMMER MATH PACKET

Rising Math 6 Students

Dear Parents and Students,

We hope your family is enjoying a great summer with plenty of relaxation and fun. Your teachers for the next year are already making plans for our new school year. We are looking forward to meeting you in August.

This summer assignment is designed to be a review of essential math skills. It includes problems covering math concepts and skills that are necessary for success in 6th grade math. Brief notes are included with each topic.

You will turn in the completed math pages to your math teacher when you come to Smart's Mill in August. There will be an incentive from your math teacher for completing this work.

Parent Instructions:

1. Please review these worksheets with your student, making sure s/he understands the directions for completing the work. If no worksheets are attached, they can be found on the Smart's Mill website.
2. Once your student has completed a page, we ask that you check their work. An answer key is found at the end of the packet. Students are expected to correct the incorrect problems.
3. Please initial and date each page as it is completed. Your initials show that your student has completed the page, you have checked it for accuracy, and corrections have been completed.

Student Instructions:

1. Review any notes and follow the directions to answer all of the questions.
2. Do your work NEATLY, IN PENCIL, and SHOW ALL WORK.
3. Print your name (first and last) on each worksheet. Staple all the sheets together at the top left corner.
4. Show every step of work needed to find the answer.
5. BOX your answer.
6. When you complete a section, give it to your parent who will check your answers.
7. Your parent will return the pages to you so that you can make any corrections. You will do this work on a separate sheet of notebook paper. It is okay at this point to receive help from a parent or tutor. Staple these corrections to your packet.

Thank you for your hard work on this summer assignment!

Your Smart's Mill 6th Grade Math Teachers

LESSON 1

Simplifying Fractions

Directions: Reduce (simplify) the following fractions by dividing the numerator and the denominator by the greatest common factor (highest number that will divide into both evenly). NO CALCULATORS.

1. $\frac{6}{9}$	2. $\frac{10}{25}$	3. $\frac{7}{14}$	4. $\frac{8}{24}$
5. $\frac{36}{60}$	6. $\frac{18}{36}$	7. $\frac{3}{18}$	8. $\frac{21}{45}$
9. $\frac{12}{40}$	10. $\frac{19}{57}$	11. $\frac{20}{28}$	12. $\frac{18}{44}$
13. $\frac{36}{48}$	14. $\frac{2}{12}$	15. $\frac{5}{15}$	16. $\frac{6}{21}$
17. $\frac{40}{55}$	18. $\frac{45}{72}$	19. $\frac{12}{108}$	20. $\frac{32}{136}$

LESSON 2

Adding and Subtracting Fractions

Directions: Add or subtract the following fractions. If the denominators are not the same, you must first get a common denominator. Always put the answer in simplest form (reduce).

1. $\frac{2}{9} + \frac{5}{9}$	2. $\frac{3}{4} - \frac{1}{4}$
3. $\frac{5}{12} - \frac{5}{18}$	4. $\frac{5}{9} + \frac{3}{8}$
5. $\frac{5}{12} - \frac{3}{16}$	6. $\frac{3}{4} + \frac{7}{12}$
7. $\frac{8}{19} - \frac{1}{3}$	8. $\frac{7}{15} + \frac{3}{25}$
9. $\frac{30}{36} - \frac{5}{18}$	10. $\frac{4}{5} + \frac{12}{13}$
11. $\frac{13}{36} + \frac{5}{12}$	12. $\frac{7}{8} - \frac{3}{10}$
13. $1\frac{5}{6} + 4$	14. $6\frac{7}{9} - 6\frac{1}{2}$
15. $7\frac{1}{4} + 1\frac{7}{9} + 2\frac{5}{6}$	16. $8\frac{1}{6} - 7\frac{3}{4}$
17. $5 + 3\frac{3}{11}$	18. $3\frac{5}{8} - 1\frac{6}{7}$
19. $4\frac{3}{7} + 5\frac{5}{14}$	20. $6\frac{3}{12} - 3\frac{9}{36}$

LESSON 3

Multiplying and Dividing Fractions

Multiplying Fractions:

rewrite

$$2\frac{1}{2} \cdot 1\frac{4}{5} = \frac{5}{2} \cdot \frac{9}{5} = \frac{45}{10} = \frac{9}{2} \text{ or } 4\frac{1}{2}$$

rewrite

Dividing Fractions:

rewrite

$$2\frac{1}{2} \div \frac{5}{6} = \frac{5}{2} \div \frac{5}{6} = \frac{5}{2} \cdot \frac{6}{5} = 3$$

flip

1. $\frac{1}{2} \cdot \frac{5}{6}$	2. $3 \cdot \frac{1}{2}$
3. $\frac{2}{5} \cdot \frac{1}{3}$	4. $\frac{16}{5} \cdot \frac{25}{27}$
5. $\frac{8}{21} \cdot 2\frac{7}{16}$	6. $1\frac{5}{7} \cdot 2\frac{1}{4}$
7. $5\frac{7}{8} \cdot 4$	8. $\frac{5}{7} \cdot \frac{7}{5}$
9. $3\frac{2}{3} \cdot \frac{17}{22}$	10. $\frac{5}{6} \cdot 2$
11. $9\frac{3}{8} \div 3\frac{3}{4}$	12. $5\frac{1}{6} \div \frac{31}{6}$
13. $\frac{7}{8} \div \frac{3}{4}$	14. $\frac{7}{12} \div \frac{7}{4}$
15. $4\frac{6}{7} \div \frac{1}{3}$	16. $5\frac{1}{2} \div \frac{7}{4}$
17. $2\frac{2}{9} \div 4\frac{2}{6}$	18. $5\frac{5}{12} \div 3\frac{1}{3}$
19. $\frac{6}{15} \div \frac{9}{10}$	20. $\frac{7}{8} \div 2\frac{1}{3}$

LESSON 4

Rounding Decimals

Directions: Find the place value you want (the "rounding digit") and look at the digit just to the right of it. If that digit is less than 5, do not change the rounding digit but drop all digits to the right of it. If that digit is greater than or equal to five, add one to the rounding digit and drop all digits to the right of it.

Round to the nearest whole number:

1. 41.803	2. 119.63	3. 20.05	4. 3.45
5. 79.531	6. 8.437	7. 29.37	8. 109.96

Round to the nearest tenth:

9. 33.335	10. 1.861	11. 99.96	12. 103.103
13. 16.031	14. 281.05	15. 8.741	16. 27.773

Round to the nearest hundredth:

17. 69.713	18. 5.569	19. 609.906	20. 247.898
21. 5.535	22. 67.1951	23. 14.0305	24. 6.9372

LESSON 5

Multiplying and Dividing by 10, 100, etc.

Directions: When multiplying by 10, move the decimal to the right one place. When multiplying by 100, move the decimal to the right two places... NOTE: "•" means multiply.

When dividing by 10, move the decimal to the left one place. When dividing by 100, move the decimal to the left two places...

1. $4.81 \cdot 100$	2. $37.68 \div 10$
3. $0.46 \cdot 1,000$	4. $7.12 \div 10,000$
5. $5.4 \cdot 10$	6. $27,500 \div 1,000$
7. $4.395 \cdot 100,000$	8. $0.0075 \div 100$
9. $2.274 \cdot 10$	10. $90,000 \div 100$
11. $0.000618 \cdot 1,000$	12. $39.006 \div 1,000$
13. $16 \cdot 100$	14. $28.889 \div 10,000$
15. $36.89 \cdot 10,000$	16. $0.091 \div 100$
17. $0.336 \cdot 100,000$	18. $1,672 \div 100,000$

LESSON 6

Adding and Subtracting Decimals

1. $3.5 + 8.4$	2. $43.57 + 104.6$
3. $15.36 + 29.23 + 7.2$	4. $7.6 + 12.412$
5. $2.304 + 6.18 + 9.2$	6. $\$12.91 + \6.99
7. $0.08 + 19$	8. $16.234 + 0.0019$
9. $22.16 + 0.193 + 72$	10. $16.22 - 0.039$
11. $44.44 - 16.103$	12. $102.8 - 16.61 - 0.99$
13. $1,892 - 0.892$	14. $\$75.02 - \3.99
15. $732.32 - 55.5$	16. $575.021 - 65.98$
17. $663.09 - 12.1227$	18. $394.6 - 27.88 - 0.0933$

LESSON 7

Multiplying and Dividing Decimals

1. $(0.003)(6)$	2. $(0.051)(0.003)$
3. $(260)(0.01)$	4. $(9.6)(5)$
5. $(7)(3.42)$	6. $(5.29)(11.3)$
7. $(0.017)(6.2)$	8. $3.906 \div 1.2$
9. $6.56 \div 0.16$	10. $0.0135 \div 4.5$
11. $0.0483 \div 2.1$	12. $0.5416 \div 0.3$
13. $16.83 \div 0.11$	14. $0.1926 \div 32.1$

LESSON 8

Writing a Remainder as a Fraction

Problem

$$5 \overline{)23}$$

Step 1
Divide.

$$\begin{array}{r} 4 \\ 5 \overline{)23} \\ -20 \\ \hline 3 \end{array}$$

Step 2
The remainder is
the numerator.

$$\begin{array}{r} 4^{\frac{3}{5}} \\ 5 \overline{)23} \\ -20 \\ \hline 3 \end{array}$$

Step 3
The divisor is the
denominator.

$$\begin{array}{r} 4^{\frac{3}{5}} \\ 5 \overline{)23} \\ -20 \\ \hline 3 \end{array}$$

Directions: Divide, show remainder as a fraction.

①
$$\begin{array}{r} 5^{\frac{1}{3}} \\ 3 \overline{)16} \\ -15 \\ \hline 1 \end{array}$$

②
$$8 \overline{)19}$$

③
$$6 \overline{)23}$$

④
$$4 \overline{)31}$$

⑤
$$2 \overline{)9}$$

⑥
$$\begin{array}{r} 1 \\ 7 \overline{)46} \end{array}$$

⑦
$$3 \overline{)28}$$

⑧
$$8 \overline{)65}$$

⑨
$$4 \overline{)21}$$

⑩
$$5 \overline{)32}$$

⑪
$$10 \overline{)57}$$

⑫
$$11 \overline{)74}$$

⑬
$$3 \overline{)44}$$

⑭
$$9 \overline{)107}$$

⑮
$$2 \overline{)45}$$

⑯
$$7 \overline{)88}$$

LESSON 9

Changing Fractions to and from Mixed Numbers

Directions: Convert each fraction to a mixed or whole number.

Example: $\frac{14}{5} = 2\frac{4}{5}$

1. $\frac{12}{7}$	2. $\frac{14}{3}$	3. $\frac{17}{4}$	4. $\frac{9}{5}$
5. $\frac{17}{5}$	6. $\frac{25}{4}$	7. $\frac{11}{6}$	8. $\frac{3}{1}$
9. $\frac{12}{3}$	10. $\frac{9}{8}$	11. $\frac{12}{6}$	12. $\frac{14}{11}$

Directions: Convert each mixed number to an improper fraction.

Example: $4\frac{1}{3} = \frac{13}{3}$

13. $2\frac{1}{7}$	14. $3\frac{7}{8}$	15. $3\frac{2}{3}$	16. $9\frac{3}{11}$
17. $1\frac{2}{5}$	18. $1\frac{1}{9}$	19. $2\frac{1}{14}$	20. $7\frac{1}{6}$
21. $4\frac{1}{2}$	22. $5\frac{5}{6}$	23. $1\frac{15}{16}$	24. $6\frac{1}{3}$

LESSON 10

Writing Remainders and Fractions as Decimals

Directions: Write fractions as decimals. NO CALCULATORS. Use long division to convert to a decimal.

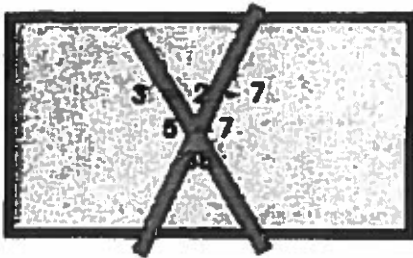
$$\begin{array}{r} 0.25 \\ 4 \overline{) 1.00} \\ \underline{- 8} \\ 20 \\ \underline{- 20} \\ 0 \end{array}$$

denominator numerator

1. $\frac{3}{5}$	2. $\frac{11}{25}$
3. $\frac{7}{15}$	4. $2\frac{1}{9}$
5. $\frac{23}{33}$	6. $1\frac{5}{6}$
7. $\frac{12}{25}$	8. $\frac{1}{3}$
9. $\frac{5}{33}$	10. $2\frac{5}{16}$
11. $\frac{25}{37}$	12. $3\frac{13}{15}$
13. $\frac{17}{22}$	14. $3\frac{11}{12}$

LESSON 11

Order of Operations



$$3 + 2 \cdot 7 =$$

$$3 + 14 =$$

$$= 17$$

MY DEAR AUNT SALLY

Remember

Do multiplication and division from left to right first. Then do addition and subtraction from left to right.

Solve the problems and write the answers in the puzzle.

Across

1. $3 + 5 \times 4 =$
2. $8 \times 5 - 4 =$
3. $48 \div 2 + 4 =$
4. $3 + 4 - 6 + 2 \times 35 =$
5. $18 - 4 \times 2 =$
6. $80 \div 4 + 2 \times 2 - 2 =$
8. $16 - 3 \times 2 + 100 \div 4 =$
9. $200 \div 10 \times 5 + 4 \times 2 =$
10. $6 \times 5 - 4 \times 2 + 3 \times 6 =$

Down

1. $1 + 4 \times 50 =$
2. $8 + 5 \times 2 + 4 + 2 + 11 =$
3. $4 + 6 - 2 + 2 + 17 =$
6. $10 - 3 + 8 - 3 + 8 \times 3 \div 3 =$
7. $3 + 9 + 3 + 4 \times 2 - 1 =$
8. $24 \div 2 \times 4 \times 10 + 1 =$
9. $18 - 3 \times 5 + 20 - 3 =$
10. $15 \times 2 + 8 + 4 + 9 =$



1			2		3	
		4				
5				6		7
		8				
9					10	

ANSWER KEY

Rising Math 6 Students

Lesson One Answers:

1. $\frac{2}{3}$	2. $\frac{2}{5}$
3. $\frac{1}{2}$	4. $\frac{1}{3}$
5. $\frac{3}{5}$	6. $\frac{1}{2}$
7. $\frac{1}{6}$	8. $\frac{7}{15}$
9. $\frac{3}{10}$	10. $\frac{1}{3}$
11. $\frac{5}{7}$	12. $\frac{9}{22}$
13. $\frac{3}{4}$	14. $\frac{1}{6}$
15. $\frac{1}{3}$	16. $\frac{2}{7}$
17. $\frac{8}{11}$	18. $\frac{5}{8}$
19. $\frac{1}{9}$	20. $\frac{4}{17}$

Lesson Two Answers:

1. $\frac{7}{9}$	2. $\frac{1}{2}$
3. $\frac{5}{36}$	4. $\frac{67}{72}$
5. $\frac{11}{48}$	6. $1\frac{1}{3}$
7. $\frac{5}{57}$	8. $\frac{44}{75}$
9. $\frac{5}{9}$	10. $1\frac{47}{65}$
11. $\frac{7}{9}$	12. $\frac{23}{40}$
13. $5\frac{5}{6}$	14. $\frac{5}{18}$
15. $11\frac{31}{36}$	16. $\frac{5}{12}$
17. $8\frac{3}{11}$	18. $1\frac{43}{56}$
19. $9\frac{11}{14}$	20. 3

Lesson Three Answers:

1. $\frac{5}{12}$	2. $1\frac{1}{2}$
3. $\frac{2}{15}$	4. $2\frac{26}{27}$
5. $\frac{13}{14}$	6. $3\frac{6}{7}$
7. $23\frac{1}{2}$	8. 1
9. $2\frac{5}{6}$	10. $1\frac{2}{3}$
11. $2\frac{1}{2}$	12. 1
13. $1\frac{1}{6}$	14. $\frac{1}{3}$
15. $14\frac{4}{7}$	16. $3\frac{1}{7}$
17. $\frac{20}{39}$	18. $1\frac{5}{8}$
19. $\frac{4}{9}$	20. $\frac{3}{8}$

Lesson Four Answers:

1. 42	2. 120	3. 20	4. 3
5. 80	6. 8	7. 29	8. 110

9. 33.3	10. 1.9	11. 100.0	12. 103.1
13. 16.0	14. 281.1	15. 8.7	16. 27.8

17. 69.71	18. 5.57	19. 609.91	20. 247.90
21. 5.54	22. 67.20	23. 14.03	24. 6.94

ANSWER KEY

Rising Math 6 Students

Lesson Five Answers:

1. 481	2. 3.768
3. 460	4. 0.000712
5. 54	6. 27.5
7. 439,500	8. 0.000075
9. 22.74	10. 900
11. 0.618	12. 0.039006
13. 1600	14. 0.0028889
15. 368,900	16. 0.00091
17. 3360	18. 0.01672

Lesson Six Answers:

1. 11.9	2. 148.17
3. 51.79	4. 20.012
5. 17.684	6. \$19.90
7. 19.08	8. 16.2359
9. 94.353	10. 16.181
11. 28.337	12. 85.2
13. 1891.108	14. \$71.03
15. 676.82	16. 509.041
17. 650.9673	18. 366.6267

Lesson Seven Answers:

1. 0.018	2. 0.000153
3. 2.6	4. 48.0
5. 23.94	6. 59.777
7. 0.1054	8. 3.255
9. 41	10. 0.003
11. 0.023	12. $1.805\bar{3}$
13. 153	14. 0.006

Lesson Eight Answers:

1. $5\frac{1}{3}$	2. $2\frac{3}{8}$
3. $3\frac{5}{6}$	4. $7\frac{3}{4}$
5. $4\frac{1}{2}$	6. $6\frac{4}{7}$
7. $9\frac{1}{3}$	8. $8\frac{1}{8}$
9. $5\frac{1}{4}$	10. $6\frac{2}{5}$
11. $5\frac{7}{10}$	12. $6\frac{8}{11}$
13. $14\frac{2}{3}$	14. $11\frac{8}{9}$
15. $22\frac{1}{2}$	16. $12\frac{4}{7}$

ANSWER KEY

Rising Math 6 Students

Lesson Nine Answers:

1. $1\frac{5}{7}$	2. $4\frac{2}{3}$
3. $4\frac{1}{4}$	4. $1\frac{4}{5}$
5. $3\frac{2}{5}$	6. $6\frac{1}{4}$
7. $1\frac{5}{6}$	8. 3
9. 4	10. $1\frac{1}{8}$
11. 2	12. $1\frac{3}{11}$
13. $\frac{15}{7}$	14. $\frac{31}{8}$
15. $\frac{11}{3}$	16. $\frac{102}{11}$
17. $\frac{7}{5}$	18. $\frac{10}{9}$
19. $\frac{29}{14}$	20. $\frac{43}{6}$
21. $\frac{9}{2}$	22. $\frac{35}{6}$
23. $\frac{31}{16}$	24. $\frac{19}{3}$

Lesson Ten Answers:

1. 0.6	2. 0.44
3. $0.4\bar{6}$	4. $2.\bar{1}$
5. $0.\bar{69}$	6. $1.8\bar{3}$
7. 0.48	8. $0.\bar{3}$
9. $0.\bar{15}$	10. 2.3125
11. $0.\bar{675}$	12. $3.8\bar{6}$
13. $0.7\bar{72}$	14. $3.91\bar{6}$