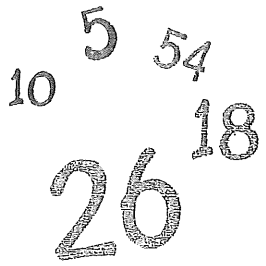
Students Entering

Sixth Grade

Summer Math Packet

Name _____



Dear Parents,

The attached packet provides a range of activities that review and expand on the math concepts your child has learned in school this past year. It is designed to be worked on for 15 to 30 minutes a day throughout the summer, rather than completed in just a few days at the beginning or end of summer. The goal is to keep skills sharp to be ready to move forward into the next school year. We have provided answers for grades 3-6 and ask you to please review the work with your child as it is completed. Students will be asked to hand in their completed work the first week of school.

Have a great summer!

Milam 6th Grade Math, Cummings Elementary
~~The Seacrest Staff~~

Name _____

Review 2

Adding and Subtracting Decimals

Find 1.7 + 2.45.

Line up the decimal points.

$$\begin{array}{r} 1.7 \\ +\ 2.45 \end{array} \qquad \begin{array}{r} {\scriptstyle 1} \\ 1.70 \\ +\ 2.45 \\ \hline 4.15 \end{array}$$

← *Write zeros to show place value.*

↑ *Place decimal point in answer.*

Find 36.57 − 4.6.

Line up the decimal points.

$$\begin{array}{r} 36.57 \\ -\ 4.6 \end{array} \qquad \begin{array}{r} {\scriptstyle 5\ 15} \\ 3\not{6}.\not{5}7 \\ -\ 4.60 \\ \hline 31.97 \end{array}$$

← *Write zeros to show place value.*

↑ *Place decimal point in answer.*

Find each sum or difference.

1. $\begin{array}{r} 2.65 \\ +\ 13.30 \end{array}$

2. $\begin{array}{r} 14.10 \\ -\ 3.05 \end{array}$

3. $\begin{array}{r} 744 \\ +\ 36.2 \end{array}$

4. $\begin{array}{r} 9 \\ -\ 0.6 \end{array}$

5. $\begin{array}{r} 8.97 \\ +\ 66 \end{array}$

6. $\begin{array}{r} 100 \\ -\ 0.22 \end{array}$

7. $\begin{array}{r} 6.8 \\ +\ 237.29 \end{array}$

8. $\begin{array}{r} 0.5 \\ -\ 0.23 \end{array}$

9. 15.4 − 8 = _____

10. 3 − 2.54 = _____

11. 1.34 + 4.1 = _____

12. 133.01 − 5.6 = _____

13. 448 + 1.75 + 80.3 = _____

14. 12.3 + 0.61 + 100 = _____

15. On the 3-days of their vacation, the Davis family traveled 417 mi, 45.3 mi, and 366.9 mi. How far did they travel all together?

_____

16. Etta bought a calculator for $15. Glenn found the same model for $9.79. How much more did Etta pay than Glenn did?

_____

Name _____

Review 4

Multiplying with Decimals

Find 4.3 × 2.7.

Multiply as you would with whole numbers.	*Count the number of decimal places in both factors. The total is the number of decimal places in the product.*
2 4.3 × 2.7 301 860 1161	4.3 ← 1 decimal place × 2.7 ← + 1 decimal place 11.61 ← 2 decimal places

Find each product.

1. 14 × 8.8 = 1120

2. 1.6 × 9 = _____

3. 0.4 × 3.2 = _____

4. 0.05 × 0.3 = _____

5. 2.15 × 8.3 = _____

6. 3.3 × 0.12 = _____

7. 0.51 × 4.2 = _____

8. 1.35 × 13 = _____

9. 23 × 0.47 = _____

10. 0.9 × 5 = _____

11. 168 × 2.25 = _____

12. 0.8 × 0.11 = _____

13. 20 × 20.2 = _____

14. 4.9 × 0.3 = _____

15. A roll of paper towels contained 250 sheets. Each sheet was 8.75 inches long. How long was the roll? _____

16. Tania bought 3 new sweaters. Each sold for $19.99. How much did she spend? _____

Name _____

Review 6

Dividing with Decimals

Find 36.8 ÷ 16.

$16\overline{)36.8}$ ↓ $2.$	Place the decimal point.
	← Think: $20\overline{)40}$ 2
	Try 2 in the quotient.

$$\begin{array}{r} 2.3 \\ 16\overline{)36.8} \\ -32 \\ \hline 48 \\ -48 \\ \hline 0 \end{array}$$

Multiply 2 × 16.
Subtract. Bring down 8.
Multiply 3 × 16.
Subtract.

Find each quotient.

1. $6\overline{)13.8}$ $2.$

-12

2. $6\overline{)131.4}$

3. $9\overline{)141.3}$

4. $5\overline{)388.5}$

5. $7\overline{)669.2}$

6. $28\overline{)263.2}$

7. $41\overline{)274.7}$

8. $7\overline{)34.23}$

9. 269.12 ÷ 8 = _____

10. 311.56 ÷ 4 = _____

11. 2,229.62 ÷ 46 = _____

12. 1,449.09 ÷ 81 = _____

13. A photographer bought 36 rolls of film for $136.44. What was the price of one roll?

_____

14. Four students each ran 100 m in a 400-m relay race. The team's total time was 49.44 sec. Find the average time of each runner.

_____

Name _____

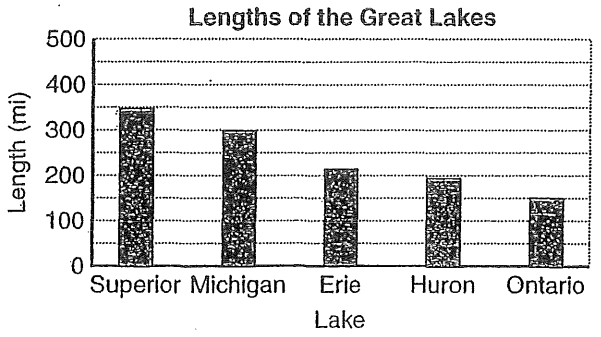
Review 8

Interpreting Data

The bar graph shows the lengths in miles of the Great Lakes. Lengths of bars represent lengths of lakes.

Which is the shortest Great Lake?

The shortest lake is Lake Ontario.



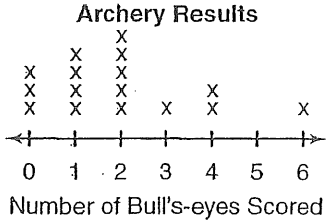
Use the graphs to answer each question.

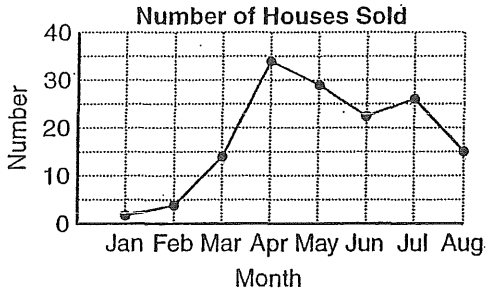
1. How many archers scored 4 bull's eyes?

_____

2. What was the most common number of bull's-eyes scored?

_____





3. In which month were the most houses sold?

_____

4. In which month were about the same number sold as were sold in August?

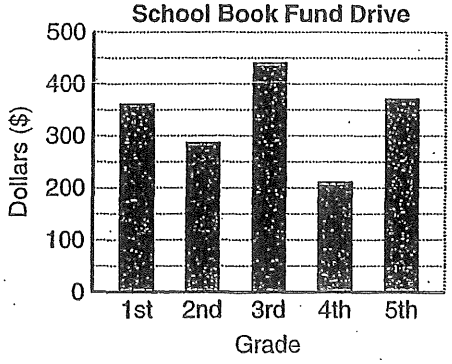
_____

5. Which grades raised about the same amount for the school book drive?

_____

6. The school's goal was to raise $1,500. About how much did they raise in all?

_____



Name _____

Review 10

Adding and Subtracting Fractions

Find $\frac{2}{3} + \frac{1}{6}$.

3	(6)	9	12	15
(6)	12	18	24	30

Multiples of 3

Multiples of 6

The least common denominator is 6.

Write equivalent fractions. $\frac{2}{3} = \frac{4}{6}$

Add. $+ \frac{1}{6} = \frac{1}{6}$

$\frac{5}{6}$

Find $\frac{1}{4} - \frac{1}{5}$.

4	8	12	16	(20)
5	10	15	(20)	25

Multiples of 4

Multiples of 5

The least common denominator is 20.

Write equivalent fractions. $\frac{1}{4} = \frac{5}{20}$

Subtract. $- \frac{1}{5} = \frac{4}{20}$

$\frac{1}{20}$

Find each sum or difference.

1. $\frac{1}{4} + \frac{2}{3} =$ _____

4			
3			

2. $\frac{11}{12} - \frac{5}{6} =$ _____

12			
6			

3. $\frac{1}{3} + \frac{4}{9} =$ _____

4. $\frac{3}{7} + \frac{2}{7} =$ _____

5. $\frac{11}{12} - \frac{5}{12} =$ _____

6. $\frac{1}{2} + \frac{1}{3} =$ _____

7. $\frac{1}{3} - \frac{1}{5} =$ _____

8. $\frac{3}{8} - \frac{1}{6} =$ _____

9. $\frac{3}{5} + \frac{3}{10} =$ _____

10. $\frac{1}{2} + \frac{2}{5} =$ _____

11. $\frac{2}{3} - \frac{1}{4} =$ _____

12. Meg practiced the piano for $\frac{5}{12}$ hr. She did homework for $\frac{3}{4}$ hr. How much longer did she do homework than she practiced the piano?

_____

Name _____

Adding Mixed Numbers

R 4-5

To add mixed numbers, you can add the fractional parts to the whole number parts, and then simplify.

Find $2\frac{2}{4} + 3\frac{1}{4}$.

The fractions have a common denominator. Add the fractions. Then add the whole numbers.

$$\begin{array}{r} 2\frac{2}{4} \\ +3\frac{1}{4} \\ \hline 5\frac{3}{4} \end{array}$$

Find $3\frac{2}{3} + 4\frac{1}{9}$.

Write equivalent fractions with the LCD.

$$\begin{array}{r} 3\frac{2}{3} = 3\frac{6}{9} \\ +4\frac{1}{9} = 4\frac{1}{9} \\ \hline \end{array}$$

Add the whole numbers.
Add the fractions.
Simplify if possible.

$$\begin{array}{r} 3\frac{6}{9} \\ +4\frac{1}{9} \\ \hline 7\frac{7}{9} \end{array}$$

Find $4 + 3\frac{3}{5}$.

Add the whole numbers; then add the fraction.

$$\begin{array}{r} 4 \\ +3\frac{3}{5} \\ \hline 7\frac{3}{5} \end{array}$$

Find each sum. Simplify your answer.

1. $2\frac{1}{5} + 2\frac{3}{5} =$ _____

2. $4\frac{2}{3} + 1\frac{1}{6} =$ _____

3. $5\frac{3}{5} + \frac{3}{10} =$ _____

4. $8\frac{5}{8} + 1\frac{5}{12} =$ _____

5. $6\frac{1}{4} + 11\frac{3}{8} =$ _____

6. $7 + 8\frac{1}{3} =$ _____

7. In 2001, the men's indoor pole vault record was $20\frac{1}{6}$ ft. The women's record for the indoor pole vault was $15\frac{5}{12}$ ft. What is the combined height of the two records? _____

8. **Writing in Math** How high is a stack of library books if one book is $1\frac{3}{8}$ in. high, the second book is $1\frac{5}{6}$ in. high, and the third is $2\frac{1}{3}$ in. high? Explain how you solved this problem.

_____

_____

_____

8

Name _____

Review 12

Subtracting Mixed Numbers

Subtract $3\frac{2}{3} - 2\frac{1}{6}$.

Write equivalent fractions.	*Subtract the fractions.*	*Subtract the whole numbers. Simplify.*
$3\frac{2}{3} = 3\frac{4}{6}$ $-\ 2\frac{1}{6} = 2\frac{1}{6}$ The LCD of 3 and 6 is 6.	$3\frac{2}{3} = 3\frac{4}{6}$ $-\ 2\frac{1}{6} = 2\frac{1}{6}$ $\frac{3}{6}$	$3\frac{2}{3} = 3\frac{4}{6}$ $-\ 2\frac{1}{6} = 2\frac{1}{6}$ $1\frac{3}{6} = 1\frac{1}{2}$

Find each difference. Simplify.

1. $3\frac{1}{3} = 3\frac{5}{15}$
$-\ 2\frac{1}{5} = 2\frac{3}{15}$

2. $2\frac{1}{3} = 2\frac{2}{6}$
$-\ 1\frac{1}{6} = 1\frac{1}{6}$

3. $3\frac{2}{3}$
$-\ 2\frac{1}{3}$

4. $6\frac{5}{8}$
$-\ 2\frac{1}{8}$

5. $3\frac{7}{10}$
$-\ 1\frac{2}{5}$

6. $7\frac{7}{8}$
$-\ 2\frac{3}{4}$

7. $3\frac{3}{4}$
$-\ 2\frac{1}{6}$

8. $5\frac{5}{6}$
$-\ 1\frac{1}{8}$

9. $2\frac{2}{3} - 1\frac{1}{4} =$ _____

10. $4\frac{3}{4} - 4\frac{2}{5} =$ _____

11. $2\frac{1}{3} - 1\frac{2}{3} =$ _____

12. $4\frac{4}{9} - 3\frac{2}{3} =$ _____

13. $3\frac{3}{8} - 2\frac{5}{6} =$ _____

14. $5\frac{1}{3} - 2\frac{5}{8} =$ _____

15. Greg found two rocks for his collection. One weighed $4\frac{1}{4}$ lb and the other weighed $2\frac{7}{8}$ lb. Find the difference in weights. _____

Name _____

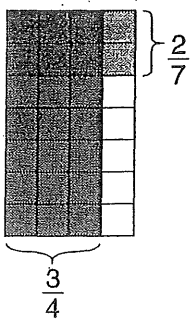
Multiplying Fractions

R 5-2

Find $\frac{3}{4} \times \frac{2}{7}$.

One Way

Draw a picture. Simplify if possible.



6 of the 28 squares have overlapping shading.

So, $\frac{3}{4} \times \frac{2}{7} = \frac{6}{28}$.

Simplify $\frac{6}{28}$ to $\frac{3}{14}$.

Another Way

Multiply the numerators and denominators. Simplify if possible.

$$\frac{3}{4} \times \frac{2}{7}$$
$$= \frac{3 \times 2}{4 \times 7} = \frac{6}{28}$$
$$= \frac{3}{14}$$

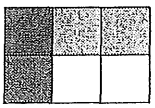
Simplify First

Find the GCF of any numerator and any denominator.

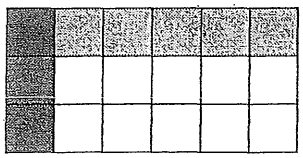
The GCF of 2 and 4 is 2. Divide 2 and 4 by the GCF.

$$\frac{3}{\cancel{4}_{2}} \times \frac{\overset{1}{\cancel{2}}}{7} = \frac{3}{14}$$

Write an equation for each picture.

1. 

_____

2. 

_____

Find each product. Simplify if possible.

3. $\frac{6}{8} \times \frac{1}{3} =$ _____

4. $\frac{5}{6} \times \frac{7}{10} =$ _____

5. $\frac{4}{5} \times \frac{3}{8} =$ _____

6. $\frac{1}{2} \times \frac{4}{9} =$ _____

7. **Number Sense** Can you simplify before multiplying $14 \times \frac{25}{27}$? Explain.

_____

_____

Name _____

Multiplying Mixed Numbers

R 5-4

How to find the product of two mixed numbers:

Find $3\frac{2}{3} \times 4\frac{1}{2}$.

Step 1

Estimate by rounding.

$$3\tfrac{2}{3} \times 4\tfrac{1}{2}$$
$$\downarrow \quad \downarrow$$
$$4 \times 5 = 20$$

Then write each mixed number as an improper fraction.

$$3\tfrac{2}{3} \times 4\tfrac{1}{2}$$
$$\downarrow \quad \downarrow$$
$$\tfrac{11}{3} \times \tfrac{9}{2}$$

Step 2

Look for common factors and simplify.

$$\frac{\cancel{11}^{1}}{\cancel{3}} \times \frac{\cancel{9}^{3}}{2} = \frac{11}{1} \times \frac{3}{2}$$

Step 3

Multiply. Write the product as a mixed number.

$$\frac{11}{1} \times \frac{3}{2} = \frac{33}{2} = 16\frac{1}{2}$$

$16\frac{1}{2}$ is close to 20, so the answer is reasonable.

Find each product. Simplify if possible.

1. $2\frac{3}{4} \times 3\frac{1}{2} =$ _____

2. $2\frac{1}{5} \times 2\frac{2}{3} =$ _____

3. $6 \times 3\frac{1}{4} =$ _____

4. $1\frac{2}{5} \times 3\frac{1}{4} =$ _____

5. $4\frac{1}{2} \times 16 =$ _____

6. $1\frac{3}{8} \times 2\frac{1}{2} =$ _____

7. Number Sense Is $2 \times 17\frac{5}{6}$ greater than or less than 36? Explain.

_____

_____

_____

_____

11

Answers and Options for Further Review

REVIEW 1

If students need more help on adding and subtracting whole numbers, use F36 and F37 in the Math Diagnosis and Intervention System.

1. 201	2. 615	3. 1,109	4. 179
5. 198	6. 980	7. 564	8. 90
9. 31		10. 109	
11. 279		12. 221	
13. 588		14. 1,301	
15. 1,296		16. 2,109	
17. 491 cards			

REVIEW 2

If students need more help on adding and subtracting decimals, use I17 in the Math Diagnosis and Intervention System.

1. 15.95	2. 11.05
3. 780.2	4. 8.4
5. 74.97	6. 99.78
7. 244.09	8. 0.27
9. 7.4	10. 0.46
11. 5.44	12. 127.41
13. 530.05	14. 112.91
15. 829.2 mi	16. $5.21

REVIEW 3

If students need more help on multiplying whole numbers, use G59 in the Math Diagnosis and Intervention System.

1. 646	2. 2,408
3. 328	4. 1,196
5. 9,072	6. 7,770
7. 39,195	8. 74,304
9. 5,940	10. 8,800
11. 20,979	12. 49,680
13. 440	14. 640
15. 3,620	16. 4,896 lb
17. 504 miles	

REVIEW 4

If students need more help on multiplying decimals, use I20 through I23 in the Math Diagnosis and Intervention System.

1. 123.2	2. 14.4
3. 1.28	4. 0.015
5. 17.845	6. 0.396
7. 2.142	8. 17.55
9. 10.81	10. 4.5
11. 378	12. 0.088
13. 404	14. 1.47
15. 2,187.5 in.	16. $59.97

REVIEW 5

If students need more help on dividing whole numbers, use G52, G54, G66, and G67 in the Math Diagnosis and Intervention System.

1. 19	2. 66
3. 83	4. 226
5. 319	6. 35
7. 47	8. 35
9. 58	10. 83
11. 40	12. 145
13. 102	14. 365
15. 19 points per game	

REVIEW 6

If students need more help on dividing decimals, use I26 in the Math Diagnosis and Intervention System.

1. 2.3
2. 21.9
3. 15.7
4. 77.7
5. 95.6
6. 9.4
7. 6.7
8. 4.89
9. 33.64
10. 77.89
11. 48.47
12. 17.89
13. $3.79 per roll
14. 12.36 sec

REVIEW 7

If students need more help on problem solving, use M10 and M12 in the Math Diagnosis and Intervention System.

1. division; 33 teams
2. addition; 450.25 lb
3. subtraction; $48.05
4. division; $0.60 per minute
5. multiplication; $4.74

REVIEW 8

If students need more help on interpreting data, use L3, L5, and L25 in the Math Diagnosis and Intervention System.

1. 2 archers
2. 2 bull's eyes
3. April
4. March
5. 1st and 5th
6. About $1,600–$1,700

REVIEW 9

If students need more help on lines and angles, use K46 and K49 in the Math Diagnosis and Intervention System.

1. intersecting and perpendicular
2. parallel
3. intersecting
4. straight
5. obtuse
6. acute
7. right
8. obtuse
9. right
10. straight
11. acute

REVIEW 10

If students need more help on adding and subtracting fractions, use H29 and H31 in the Math Diagnosis and Intervention System.

1. $\frac{11}{12}$
2. $\frac{1}{12}$
3. $\frac{7}{9}$
4. $\frac{5}{7}$
5. $\frac{1}{2}$
6. $\frac{5}{6}$
7. $\frac{2}{15}$
8. $\frac{5}{24}$
9. $\frac{9}{10}$
10. $\frac{9}{10}$
11. $\frac{5}{12}$
12. $\frac{1}{3}$ hour

Name _____

Multiplying Fractions

R 5-2

Find $\frac{3}{4} \times \frac{2}{7}$.

One Way

Draw a picture. Simplify if possible.

6 of the 28 squares have overlapping shading.

So, $\frac{3}{4} \times \frac{2}{7} = \frac{6}{28}$.

Simplify $\frac{6}{28}$ to $\frac{3}{14}$.

Another Way

Multiply the numerators and denominators. Simplify if possible.

$\frac{3}{4} \times \frac{2}{7}$

$= \frac{3 \times 2}{4 \times 7} = \frac{6}{28}$

$= \frac{3}{14}$

Simplify First

Find the GCF of any numerator and any denominator.

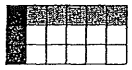
The GCF of 2 and 4 is 2. Divide 2 and 4 by the GCF.

$\frac{3}{\cancel{4}_{2}} \times \frac{\cancel{2}^{1}}{7} = \frac{3}{14}$

Write an equation for each picture.

1. 

$\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

2. 

$\frac{1}{6} \times \frac{1}{3} = \frac{1}{18}$

Find each product. Simplify if possible.

3. $\frac{6}{8} \times \frac{1}{3} = \frac{1}{4}$

4. $\frac{5}{6} \times \frac{7}{10} = \frac{7}{12}$

5. $\frac{4}{5} \times \frac{3}{8} = \frac{3}{10}$

6. $\frac{1}{2} \times \frac{4}{9} = \frac{2}{9}$

7. **Number Sense** Can you simplify before multiplying $14 \times \frac{25}{27}$? Explain.

No, because there is no common factor to divide by

20