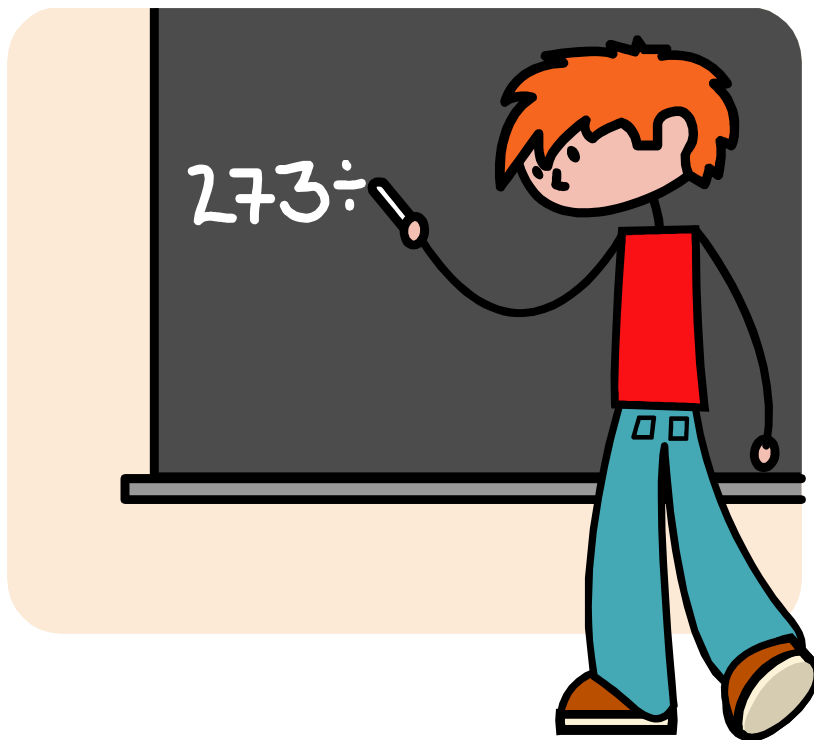


Math Summer Work 2023

Grade 5 to Rising 6th grade Fall 2023



No Calculators, please
This will be collected when you return to school.

Table of Contents

Unit 1

Place Value System

Rounding Numbers

Unit 2

Adding, subtracting, multiplying and dividing whole numbers

Exponents

Order of Operations

Distributive Property

Unit 3

Decimals- Adding, subtracting, multiplying and dividing

Unit 4

Fractions

Equivalent fraction

Ordering fractions

Improper fractions and mixed numbers

Adding, subtracting, multiplying and dividing

Relating fractions, decimals, and percents

Unit 5

Word problems

Perimeter

Vocabulary

Unit 1 Place Value System

I. Write the numbers in expanded notation for questions 1 and 2.

Example $42,301 = 4 \times 10,000 + 2 \times 1,000 + 3 \times 100 + 1 \times 1$

1. 513,862

2. 8,308,136

3. Write the number 112,040,068 in **words**.

II. Write the following words in decimal and fraction form.

Example: three and two tenths 3.2 or $\frac{32}{10}$ or $3 \frac{2}{10}$

1. Two and three tenths _____

2. Sixty-five and eleven thousandths _____

3. Twenty and five hundredths _____

4. Twenty-two and twenty-two hundredths _____

Write in standard form.

5. $(9 \times 10) + (9 \times 1) + (9 \times 0.1) =$ _____

6. $(9 \times 1000) + (7 \times 100) + (1 \times 1) + (5 \times 0.1) =$ _____

Write the number in expanded notation. Example: 578.0053

$5 \times 100 + 7 \times 10 + 8 \times 1 + 5 \times 0.001 + 3 \times 0.0001$

7. 216.9 = _____

8. 97.065 = _____

9. 15.15 = _____

III. Round each number to the given place value.

1. 375 (tens) _____

2. 10,187 (thousands) _____

3. 400,891 (hundreds) _____
4. 15.48 (tenths) _____
5. 28.3 (ones) _____
6. 8.5161 (thousandths) _____
7. 5.436 rounded to the nearest tenth is _____
8. 6.999 rounded to the nearest hundredth is _____
9. Write the number 43.012 in words.

10. Write the number 3.45 in expanded notation

11. Write in standard form. $5 \times 10^3 + 3 \times 10^2 =$ _____

12. Write in standard form. $5 \times 10 + 6 \times 1 + 3 \times 0.1 + 2 \times 0.01 =$

Unit 2 Adding, Subtracting, Multiplying and Dividing Whole Numbers

I. Add or subtract

1. $526 + 1599 =$ _____
2. $15906 + 15906 =$ _____
3. $35187 - 5923 =$ _____
4. $5,693 + 1,278 =$ _____
5. $13,698 - 299 =$ _____
6. $28 + 72 =$ _____
7. $2550 - 325 =$ _____
8. $58,978 - 29,596 =$ _____

II. Multiply and Divide. Write the quotient in fraction form

Example $48 \div 5 = 9 \frac{3}{5}$

1. $37 \div 5 =$ _____
2. $47 \div 3 =$ _____

3. $3157 \div 6 =$ _____
4. $256 \div 5 =$ _____
5. $15 \times 81 =$ _____
6. $33 \times 33 =$ _____
7. $66 \div 11 =$ _____
8. $850 \div 10 =$ _____
9. $99 \div 8 =$ _____
10. $128 \div 6 =$ _____

III. Exponents

1. $5^2 =$ _____
2. $9^3 =$ _____
3. $4^2 =$ _____
4. $10^3 =$ _____

IV. Solve the expressions using order of operations.

1. $5 \cdot 3 + (6-2) =$ _____
2. $(13-2) + 4 \cdot 3 =$ _____
3. $28 \div 7 + 32 \cdot 5 =$ _____
4. $48 - 6 \cdot 7 =$ _____
5. $(5-3)^2 + 5 =$ _____
6. $5^2 + 5 \div 5 - 4 =$ _____

V. Distributive Property = $6(2+2) = 12 + 12 = 24$

1. $8(2+4) =$ _____
2. $9(2+5) =$ _____
3. $5(2+ 6) =$ _____
4. $5(10 + 9) =$ _____

Solve using distributive property Example- $22(22) = 22(20+2) = 440 + 44 = 484$

5. $16(75) =$ _____
6. $18(22) =$ _____
7. $5(88) =$ _____

8. $6(99)=$ _____

9. $15(15)=$ _____

10. $12(123)=$ _____

Unit 3 Decimals

I. Adding and Subtracting with decimals

1. $19.09 + 1.504 =$

2. $65.98 + 5.002=$

3. $196.2 + 9.82 =$

4. $12.95 - 8.87 =$

5. $139.7 - 82.8 =$

6. $582.27 - 390.25 =$

7. $\$25.01 - \$16.99=$

8. $4.1 - 2.1=$

9. $15.02 - 5.0299 =$

II. Multiplying and Dividing decimals

1. $0.07 \times 0.005 =$ _____

2. $8.14 \times 1.2 =$ _____

3. $1.62 \times 0.5 =$ _____

4. $0.0009 \times 0.8=$ _____

5. $3.5 \times 2.5 =$ _____

6. $1.5 \times 51 =$ _____

7. $1.1 \times 1.1 =$ _____

8. $125.6 \times 10^3 =$ _____

9. $1.25 \times 100 =$ _____

10. $9.5 \times 10 =$ _____

Note the operation change!

11. $0.72 \div 10 =$ _____

12. $8.5 \div 5 =$ _____

13. $13.2 \div 6 =$ _____

14. $0.816 \div 8 =$ _____

15. $0.64 \div 8 =$ _____

16. $5.4 \div 6 =$ _____

17. $6.25 \div 5 =$ _____
18. $0.416 \div 0.004 =$ _____
19. $2.8 \div 10 =$ _____
20. $170.82 \div 10^3 =$ _____

Unit 4 Fractions

I. Equivalent fractions: Write 3 equivalent fractions for each fraction

1. $\frac{1}{2}$ _____, _____, _____
2. $\frac{5}{8}$ _____, _____, _____
3. $\frac{1}{3}$ _____, _____, _____
4. $\frac{1}{5}$ _____, _____, _____
5. $\frac{10}{16}$ _____, _____, _____
6. $\frac{2}{3}$ _____, _____, _____

Find the missing number

7. $\frac{2}{5} = \frac{x}{25}$ $x =$ _____
8. $\frac{1}{3} = \frac{9}{x}$ $x =$ _____
9. $\frac{2}{4} = \frac{x}{20}$ $x =$ _____

II. Order the fractions from least to greatest. Please use common denominators.

1. $\frac{1}{16}, \frac{1}{9}, \frac{1}{100}, \frac{1}{2}, \frac{1}{15}, \frac{1}{3}, \frac{1}{26}$ _____
2. $\frac{2}{9}, \frac{1}{3}, \frac{5}{6}, \frac{7}{18}, \frac{1}{18}$ _____
3. Of the fractions $\frac{3}{4}, \frac{15}{16},$ and $\frac{32}{33},$ which is closest to 1? _____

Improper fractions and Mixed Numbers

Rewrite the improper fraction as a mixed number.

4. $\frac{15}{3} =$ _____
5. $\frac{13}{6} =$ _____
6. $\frac{7}{5} =$ _____

7. $120/112 =$ _____

Rewrite the mixed number as an improper fraction

8. $2\frac{1}{2} =$ _____

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

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

III. Adding and Subtracting Fractions

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

2. $6\frac{5}{8} + 7\frac{11}{24} =$ _____

3. $\frac{4}{7} + \frac{9}{28} =$ _____

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

5. $5\frac{6}{35} + 8\frac{8}{7} =$ _____

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

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

8. $8\frac{5}{9} - 1\frac{1}{9} =$ _____

9. $\frac{6}{9} - \frac{1}{6} =$ _____

10. $6\frac{4}{5} - 3\frac{1}{5} =$ _____

11. $8\frac{8}{9} - 2\frac{8}{9} =$ _____

12. $4\frac{1}{8} - 2\frac{3}{8} =$ _____

13. $3\frac{7}{12} - 2\frac{2}{3} =$ _____

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

IV. Multiplying and Dividing Fractions

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

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

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

4. $\frac{3 \times 3}{7 \ 7} =$ _____

5. $\frac{5 \times 2}{6 \ 3} =$ _____

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

7. $\frac{4 \times 1}{7 \ 2} =$ _____

8. $10 \times \frac{1}{2} =$ _____

9. $9 \times \frac{6}{9} =$ _____

10. $\frac{1}{3} \times \frac{1}{3} =$ _____

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

12. $1 \frac{1}{2} \times 5 =$ _____

Solve the division problems

13. $\frac{1}{5} \div 5 =$ _____

14. $0.2 \div 5 =$ _____

15. $\frac{1}{10} \div \frac{1}{10} =$ _____

16. Rewrite question #15 using decimals and then solve. _____

17. Is the answer for question 15 and 16 the same or different? Do you prefer working with decimals or fractions? Explain.

For questions 18-25, please check your answers by multiplication.

Division**Check by multiplication**

18. $1/5 \div 1/3 =$ _____

19. $1/3 \div 6/15 =$ _____

20. $9 \div 1/3 =$ _____

21. $5/8 \div 1/8 =$ _____

22. $7/9 \div 1/3 =$ _____

23. $1/27 \div 1/9 =$ _____

24. $1/5 \div 5 =$ _____

25. $9 \div 18/27 =$ _____

Fractions, Decimals and Percents are related concepts.**Complete the table**

fractions	Decimals	Percents
1/5		
	0.15	
		19%

Unit 5 Word Problems and Miscellaneous**I. Solve**

- Blake, Nate and Alexander play soccer. They each scored the same amount of goals this season. If the boys scored a total of 24 goals, how many goals did each boy score?**

- Joe's father worked thirty six hours one week and forty seven hours the next week. How many hours did he work during the two weeks?_____**

- The space flight is expected to last 11,720 minutes. They are now 7,342 minutes into the flight. How many minutes remain? _____**

4. What is 20% of 50 cars? _____
5. If I surveyed 50 fifth grades boys and 50% love math; how many students love math?

6. Sam bought shoes last night for \$60.00. They were on sale for 20% off. How much did the shoes cost on sale?

7. Jeff bought War hammer supplies for \$150.00. It was on sale for 25% off. How much is the discount? _____
8. You want to buy 4 sharpies. They sell for \$1.15 each. Tax in Maryland is 6%. How much do the 4 sharpies cost with tax? _____
9. How many days in 240 hours? _____
10. How many inches in 4 yards? _____

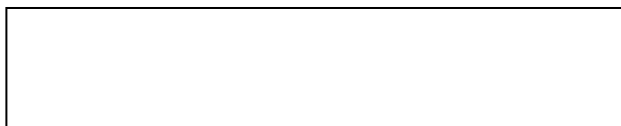
11. Find the perimeter and area. (Measure the length and width to the nearest 1/8 inch)

L= _____

W = _____

P = _____

A= _____



12. You spend 1/9 of your allowance on a book and 1/3 of your allowance on a CD and 5/27 at the SP bookstore. Do you have more than half, half, or less than half of your allowance remaining? Explain by showing your number sentence. _____

13. John has a friend who is deaf and uses sign language to communicate. He can sign about 36 concepts per minute. How many concepts can he sign in 15 minutes? _____

II. Vocabulary

Match the vocabulary word with the definition or example

- __1. factor
 - __2. associative property
 - __3. common denominator
 - __4. reciprocal
 - __5. Commutative property
 - __6. denominator
 - __7. distributive property
 - __8. exponent
 - __9. multiple
 - __10. improper fraction
 - __11. least common denominator (LCD)
 - __12. least common multiple (LCM)
 - __13. mixed number
 - __14. numerator
 - __15. percent
 - __16. perimeter
 - __17. area
 - __18. reciprocal
- a. $(2 \times 3) \times 6 = 2 \times (3 \times 6)$
 - b. a fraction that is greater than one
 - c. The LCD of two or more fractions
 - d. the number below the line in a fraction.
 - e. a whole number and its fraction
 - f. the smallest multiple of two or more denominators
 - g. the number of times a base is used as a factor
 - h. the same denominator used in fractions
 - i. $2 \times 3 = 3 \times 2$
 - j. per hundred
 - k. a number that divides another number evenly
 - l. 6, 12, 18, 20 are examples of _____ of 6
 - m. $5(432) = 5 \times 400 + 5 \times 30 + 5 \times 2 = 2160$
 - n. the number above the line in a fraction
 - o. length x width is the formula for _____
 - p. two numbers whose product is one
 - q. the distance around a figure

Answers- Please remove from your book.

Unit 1 Place Value System

I. Write the numbers in expanded notation for questions 1 and 2.

Example $42,301 = 4 \times 10,000 + 2 \times 1,000 + 3 \times 100 + 1 \times 1$

1. $513,862 = 5 \times 100,000 + 1 \times 10,000 + 3 \times 1,000 + 8 \times 100 + 6 \times 10 + 2 \times 1$

2. $8,308,136 = 8 \times 1,000,000 + 3 \times 100,000 + 8 \times 1,000 + 1 \times 100 + 3 \times 10 + 6 \times 1$

3. Write the number 112,040,068 in words. **One hundred twelve million, forty thousand, sixty-eight**

II. Write the following words in decimal and fraction form.

Example: three and two tenths **3.2 or $3 \frac{2}{10}$**

1. Two and three tenths **2.3** **$2 \frac{3}{10}$**

2. Sixty-five and eleven thousandths **65.011** **$65 \frac{11}{1000}$**

3. Twenty and five hundredths **20.05** **$20 \frac{5}{100}$**

4. Twenty-two and twenty-two hundredths **22.22** **$22 \frac{22}{100}$**

Write in standard form.

5. $(9 \times 10) + (9 \times 1) + (9 \times 0.1) = 99.9$

6. $9 \times 1000 + 7 \times 100 + 1 \times 1 + 5 \times 0.1 = 9701.5$

Write the number in expanded notation. Example: **578.0053**

$5 \times 100 + 7 \times 10 + 8 \times 1 + 5 \times 0.001 + 3 \times 0.0001$

7. $216.9 = 2 \times 100 + 1 \times 10 + 6 \times 1 + 9 \times 0.1$

8. $97.065 = 9 \times 10 + 7 \times 1 + 6 \times 0.01 + 5 \times 0.001$

9. $15.15 = 1 \times 10 + 5 \times 1 + 1 \times 0.1 + 5 \times 0.01$

III. Round each number to the given place value.

1. 375 (tens) **380**

2. 10,187 (thousands) **10,000**

3. 400,891 (hundreds) **400,900**

4. 15.48 (tenths) **15.5**

5. 28.3 (ones) **28**

6. 8.5161 (thousandths) **8.516**

7. 5.436 rounded to the nearest tenth is **5.4**

8. 6.999 rounded to the nearest hundredth is **7.00**

9. Write the number 43.012 in words. **Forty-three and twelve thousandths**

10. Write the number 3.45 in expanded notation **$3 \times 1 + 4 \times 0.1 + 5 \times 0.01$**

11. Write in standard form. **$5 \times 10^3 + 3 \times 10^2 = 5300$**

12. Write in standard form. **$5 \times 10 + 6 \times 1 + 3 \times 0.1 + 2 \times 0.01 = 56.32$**

Unit 2 Adding, Subtracting, Multiplying and Dividing whole numbers

I. Add or subtract

1. $526 + 1599 = 2,125$

2. $15906 + 15906 = 31,812$

3. $35187 - 5923 = 29,264$

4. $5,693 + 1,278 = 6,971$

5. $13,698 - 299 = 13,399$

6. $28 + 72 = 100$

7. $2550 - 325 = 2,225$

8. $58,978 - 29,596 = 29,382$

II. Multiply and Divide. Write the quotient in fraction form

Example $48 \div 5 = 9 \frac{3}{5}$

- $37 \div 5 = 7 \frac{2}{5}$
- $47 \div 3 = 15 \frac{2}{3}$
- $3157 \div 6 = 526 \frac{1}{6}$
- $256 \div 5 = 51 \frac{2}{5}$
- $15 \times 81 = 1,215$
- $33 \times 33 = 1,089$
- $66 \div 11 = 6$
- $850 \div 10 = 85$
- $99 \div 8 = 12 \frac{3}{8}$
- $128 \div 6 = 21 \frac{2}{6}$ or $21 \frac{1}{3}$

III. Exponents

- $5^2 = 25$
- $9^3 = 729$
- $4^2 = 16$
- $10^3 = 1000$

IV. Solve the expressions using order of operations.

- $5 \cdot 3 + (6-2) = 19$
- $(13-2) + 4 \cdot 3 = 23$
- $28 \div 7 + 32 \cdot 5 = 164$
- $48 - 6 \cdot 7 = 6$
- $(5-3)^2 + 5 = 9$
- $5^2 + 5 \div 5 - 4 = 22$

V. Distributive Property = $6(2+2) = 12 + 12 = 24$

- $8(2+4) = 16 + 32 = 48$
- $9(2+5) = 18 + 45 = 63$
- $5(2+6) = 10 + 30 = 40$
- $5(10+9) = 50 + 45 = 95$

Solve using distributive property Example- $22(22) = 22(20+2) = 440 + 44 = 484$

- $16(75) = 16 \times 70 + 16 \times 5 = 1200$
- $18(22) = 18 \times 20 + 18 \times 2 = 396$
- $5(88) = 5 \times 80 + 5 \times 8 = 440$
- $6(99) = 6 \times 90 + 6 \times 9 = 594$
- $15(15) = 15 \times 10 + 15 \times 5 = 225$
- $12(123) = 12 \times 100 + 12 \times 20 + 12 \times 3 = 1,476$

Unit 3 Decimals

I. Adding and subtracting with decimals

- $19.09 + 1.504 = 20.594$
- $65.98 + 5.002 = 70.982$
- $196.2 + 9.82 = 206.02$
- $12.95 - 8.87 = 4.08$
- $139.7 - 82.8 = 56.9$
- $582.27 - 390.25 = 192.02$
- $\$25.01 - \$16.99 = 8.02$
- $4.1 - 2.1 = 2.0$
- $15.02 - 5.0299 = 9.9901$

II. Multiplying and Dividing decimals

- $0.07 \times 0.005 = 0.00035$
- $8.14 \times 1.2 = 9.768$
- $1.62 \times 0.5 = 0.81$
- $0.0009 \times 0.8 = 0.00072$
- $3.5 \times 2.5 = 8.75$
- $1.5 \times 51 = 76.5$
- $1.1 \times 1.1 = 1.21$
- $125.6 \times 10^3 = 125,600$
- $1.25 \times 100 = 125$
- $9.5 \times 10 = 95$

Note the operation change!

- $0.72 \div 10 = 0.072$
- $8.5 \div 5 = 1.7$
- $13.2 \div 6 = 2.2$
- $0.816 \div 8 = 0.102$
- $0.64 \div 8 = 0.08$
- $5.4 \div 6 = 0.9$
- $6.25 \div 5 = 1.25$

18. $0.416 \div 0.004 = 104$
 19. $2.8 \div 10 = 0.28$
 20. $170.82 \div 10^3 = 0.17082$

Unit 4 Fractions

I. Equivalent fractions: Write 3 equivalent fractions for each fraction

- $\frac{1}{2}$ $\frac{2}{4}$, $\frac{3}{6}$, $\frac{4}{8}$
- $\frac{5}{8}$ $\frac{10}{16}$, $\frac{15}{24}$, $\frac{20}{32}$
- $\frac{1}{3}$ $\frac{2}{6}$, $\frac{3}{9}$, $\frac{4}{12}$
- $\frac{1}{5}$ $\frac{2}{10}$, $\frac{3}{15}$, $\frac{4}{20}$
- $\frac{10}{16}$ $\frac{20}{32}$, $\frac{30}{48}$, $\frac{40}{64}$, $\frac{5}{8}$
- $\frac{2}{3}$ $\frac{4}{6}$, $\frac{6}{9}$, $\frac{8}{12}$

Find the missing number

7. $\frac{2}{5} = \frac{x}{25}$ $x = 10$

8. $\frac{1}{3} = \frac{9}{x}$ $x = 27$

9. $\frac{2}{4} = \frac{x}{20}$ $x = 10$

II. Order the fractions from least to greatest. Please use common denominators.

- $\frac{1}{16}$, $\frac{1}{9}$, $\frac{1}{100}$, $\frac{1}{2}$, $\frac{1}{15}$, $\frac{1}{3}$, $\frac{1}{26}$ Answer-- $\frac{1}{100}$, $\frac{1}{26}$, $\frac{1}{16}$, $\frac{1}{15}$, $\frac{1}{9}$, $\frac{1}{3}$, $\frac{1}{2}$
- $\frac{2}{9}$, $\frac{1}{3}$, $\frac{5}{6}$, $\frac{7}{18}$, $\frac{1}{18}$ Answer $\frac{1}{18}$, $\frac{2}{9}$, $\frac{1}{3}$, $\frac{7}{18}$, $\frac{5}{6}$
- Of the fractions $\frac{3}{4}$, $\frac{15}{16}$, and $\frac{32}{33}$, which is closest to 1? Answer $\frac{32}{33}$

Improper fractions and Mixed Numbers

Rewrite the improper fraction as a mixed number.

- $\frac{15}{3} = 5$
- $\frac{13}{6} = 2 \frac{1}{6}$
- $\frac{7}{5} = 1 \frac{2}{5}$
- $\frac{120}{112} = 1 \frac{8}{112} = 1 \frac{1}{14}$

Rewrite the mixed number as an improper fraction

- $2 \frac{1}{2} = \frac{5}{2}$
- $3 \frac{1}{3} = \frac{10}{3}$
- $2 \frac{3}{4} = \frac{11}{4}$

III. Adding and Subtracting Fractions

- $2 \frac{1}{8} + \frac{3}{8} = 2 \frac{1}{2}$
- $6 \frac{5}{8} + 7 \frac{11}{24} = 14 \frac{1}{12}$
- $\frac{4}{7} + \frac{9}{28} = \frac{25}{28}$
- $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{2}{4} + \frac{2}{2} = 3$
- $5 \frac{6}{35} + 8 \frac{8}{7} = 14 \frac{11}{35}$
- $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$
- $6 \frac{1}{2} - 3 \frac{1}{4} = 3 \frac{1}{4}$
- $8 \frac{5}{9} - 1 \frac{1}{9} = 7 \frac{4}{9}$
- $\frac{6}{9} - \frac{1}{6} = \frac{1}{2}$
- $6 \frac{4}{5} - 3 \frac{1}{5} = 3 \frac{3}{5}$
- $8 \frac{8}{9} - 2 \frac{8}{9} = 6$
- $4 \frac{1}{8} - 2 \frac{3}{8} = 1 \frac{3}{4}$
- $3 \frac{7}{12} - 2 \frac{2}{3} = 1 \frac{1}{12}$
- $8 - 5 \frac{2}{3} = 2 \frac{1}{3}$

IV. Multiplying and Dividing Fractions

- $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
- $\frac{1}{5} \times \frac{10}{1} = 2$
- $\frac{1}{6} \times \frac{2}{3} = \frac{1}{9}$
- $\frac{3}{7} \times \frac{3}{7} = \frac{9}{49}$

5. $\frac{5}{6} \times \frac{2}{3} = \frac{5}{9}$

6. $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$

7. $\frac{4}{7} \times \frac{1}{2} = \frac{2}{7}$

8. $10 \times \frac{1}{2} = 5$

9. $9 \times \frac{6}{9} = 6$

10. $\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$

11. $2 \frac{1}{4} \times 3 = 6 \frac{3}{4}$

12. $1 \frac{1}{2} \times 5 = 7 \frac{1}{2}$

Solve the division problems

13. $\frac{1}{5} \div 5 = \frac{1}{25}$

14. $0.2 \div 5 = 0.04$ or $\frac{2}{50}$

15. $\frac{1}{10} \div \frac{1}{10} = 1$

16. Rewrite question #15 using decimals and then solve. $0.1 \div 0.1 = 1$

17. Is the answer for question 15 and 16 the same or different? Do you prefer working with decimals or fractions? Explain. The answers are the same, for questions 15 and 16. $\frac{1}{10} \div \frac{1}{10} = 1$ and $0.1 \div 0.1 = 1$ are the same but in different format. The first format is fraction and the second is decimals. Answers on preference vary.

For questions 18-25, please check your answers by multiplication.

Division

18. $\frac{1}{5} \div \frac{1}{3} = \frac{3}{5}$

19. $\frac{1}{3} \div \frac{6}{15} = \frac{5}{6}$

20. $9 \div \frac{1}{3} = 27$

21. $\frac{5}{8} \div \frac{1}{8} = 5$

22. $\frac{7}{9} \div \frac{1}{3} = \frac{7}{3}$

23. $\frac{1}{27} \div \frac{1}{9} = \frac{1}{3}$

24. $\frac{1}{5} \div 5 = \frac{1}{25}$

25. $9 \div \frac{18}{27} = 13 \frac{1}{2}$ or $\frac{27}{2}$

Check by multiplication

$\frac{3}{5} \times \frac{1}{3} = \frac{1}{5}$

$\frac{5}{6} \times \frac{6}{15} = \frac{1}{3}$

$27 \times \frac{1}{3} = 9$

$5 \times \frac{1}{8} = \frac{5}{8}$

$\frac{7}{3} \times \frac{1}{3} = \frac{7}{9}$

$\frac{1}{3} \times \frac{1}{9} = \frac{1}{27}$

$\frac{1}{25} \times 5 = \frac{1}{5}$

$\frac{27}{2} \times \frac{18}{27} = 9$

Fractions, Decimals and Percents are related concepts.

Complete the table

fractions	decimals	Percents
$\frac{1}{5}$	0.2	20%
$\frac{15}{100} = \frac{3}{20}$	0.15	15%
$\frac{19}{100}$	0.19	19%

I. Solve

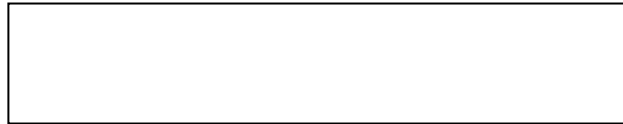
1. Blake, Nate and Alexander play soccer. They each scored the same amount of goals this season. If the boys scored a total of 24 goals, how many goals did each boy score? 8 each
2. Joe's father worked thirty six hours one week and forty seven hours the next week. How many hours did he work during the two weeks? 83 hours for two weeks
3. The space flight is expected to last 11,720 minutes. They are now 7,342 minutes into the flight. How many minutes remain? 4378 minutes remain in flight.
4. What is 20% of 50 cars? 10 cars
5. If I surveyed 50 fifth grades boys and 50% love math; how many students love math? Twenty five boys love math.
6. Sam bought shoes last night for \$60.00. They were on sale for 20% off. How much did the shoes cost on sale? \$48.00
7. Jeff bought War hammer supplies for \$150.00. It was on sale for 25% off. How much is the discount? \$37.50 is the discount for supplies.
8. You want to buy 4 sharpies. They sell for \$1.15 each. Tax in Maryland is 6%. How much do the 4 sharpies cost with tax? \$4.88
9. How many days in 240 hours? 10 days
10. How many inches in 4 yards? 144 inches

11. Find the perimeter. (Measure the length and width to the nearest 1/8 inch)

L= 3 1/2 inches

W = 5/8 inch

P = 8 1/2 inches



12. You spend 1/9 of your allowance on a book and 1/3 of your allowance on a CD and 5/27 at the SP bookstore. Do you have more than half, half, or less than half of your allowance remaining? Explain by showing your number sentence. You have less than 1/2 of your allowance remaining.

$$3/27 + 9/27 + 5/27 = 17/27$$

13. John has a friend who is deaf and uses sign language to communicate. He can sign about 36 concepts per minute. How many concepts can he sign in 15 minutes? 540 concepts

II. Vocabulary

Match the vocabulary word with the definition or example

- | | |
|---------------------------------------|--|
| _k_1. factor | a. $(2 \times 3) \times 6 = 2 \times (3 \times 6)$ |
| _a_2. associative property | b. a fraction that is greater than one |
| _h_3. common denominator | c. The LCD of two or more fractions |
| _p_4. reciprocal | d. the number below the line in a fraction. |
| _i_5. Commutative property | e. a whole number and its fraction |
| _d_6. denominator | f. the smallest multiple of two or more denominators |
| _m_7. distributive property | g. the number of times a base is used as a factor |
| _g_8. exponent | h. the same denominator used in fractions |
| _l_9. multiple | i. $2 \times 3 = 3 \times 2$ |
| _b_10. improper fraction | j. per hundred |
| _c_11. least common denominator (LCD) | k. a number that divides another number evenly |
| _f_12. least common multiple (LCM) | l. 6, 12, 18, 20 are examples of _____ of 6 |
| _e_13. mixed number | m. $5(432) = 5 \times 400 + 5 \times 30 + 5 \times 2 = 2160$ |
| _n_14. numerator | n. the number above the line in a fraction |
| _j_15. percent | o. length x width is the formula for _____ |
| _q_16. perimeter | p. two numbers or fractions whose product is one |
| _o_17. area | q. the distance around a figure |

