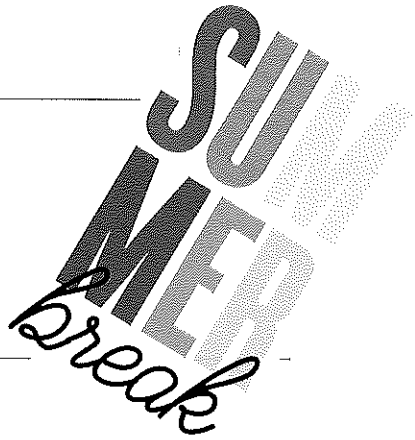
IMPORTANT

TOP PRIORITY

Math 7

Summer Break Packet



Congratulations on completing 6th grade and I look forward to meeting you next year as a 7th grader!

To keep the skills you have learned in 6th grade, that you need next year, I have created this packet. This packet was not created to torture you!!! It was created to help you maintain your math skills, help make you a math expert and to prepare you for 7th grade math!!!

Packet expectations

I suggest that you work on this packet gradually over the summer. If you wait until the last week or the day before you come back to school you will not complete it! I have a chart on the next page that has broken the packet into weekly sections to try to help you complete it and make it completely manageable.

Do NOT use a calculator until Page 23, and you may use it on the pages following. The first 22 pages are intended for you to do without a calculator.

At the end of the packet is a reflection form for you and your parents to be completed after you have finished all the assignments. Please have them both filled out to be turned in on the first day of school.

Completed packets are due the first day of school!!!! (August 23, 2021)

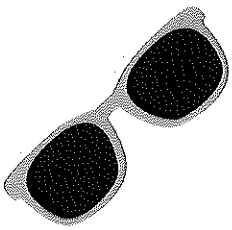
After reviewing the packet the first few days of school there will be an assessment.

Good Luck and have a Marvelous summer!!! I cannot wait to see you in the fall!

Sincerely

Mrs. Carmichael

Teachers Rule!

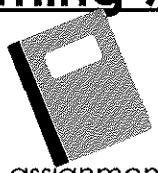


SUNSHINE

Summertime

Name: _____ An adjective to describe yourself: _____

Math Incoming 7th Grade Summer Break Packet



you've got this

Expectations

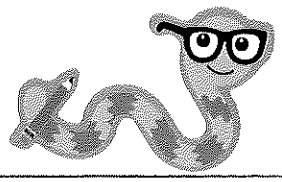
- *Please complete 2 assignments per week. The guide below is for you to stay on top of your work over the break!*
- *Do NOT use a calculator! (You may use it when you see a calculator icon on your page).*

Suggested Date	Reading Assignment	Rubric
Week 1	Decimal Operation - Page 4 *(Hint: Page 3)*	1 0.5 0
	Fraction Operation - Page 6 *(Hint: Page 5)*	1 0.5 0
Week 2	Ratios, Rates, and Percents Practice - Page 8 *(Hint: Page 7)*	1 0.5 0
	Converting between Rational Numbers - Page 9 & 10	1 0.5 0
Week 3	Number System and Geometry Review - Page 12 *(Hint: Page 11)*	1 0.5 0
	Coordinate Plane Exercise - Page 13	1 0.5 0
Week 4	Order of Operations Review – Page 14	1 0.5 0
	Subtracting and Multiplying Fractions Review - Page 15	1 0.5 0
Week 5	Expressions and Equations Review - Page 18 *(Hint: Page 17)*	1 0.5 0
	Solving One-Step Equation Exercises - Page 19 & 20	1 0.5 0
Week 6	Adding, Subtracting, Multiplying and Dividing Integers Review – Page 21, 22	1 0.5 0
		1 0.5 0
Week 7	Statistics: Mean, Median, Range, and Mode - Page 23	1 0.5 0
	More Statistics Exercise - Page 24	1 0.5 0
Week 8	**Performance Task #1 (6th-grade level)** Be sure to show all your work and explain your thinking in a complete sentence. **This is worth more than the other assignments.**	3 2 1 0
Week 9	**Performance Task #2 (6th-grade level)** Be sure to show all your work and explain your thinking in a complete sentence. **This is worth more than the other assignments.**	3 2 1 0
		Total Habits **Score: _____ /20**

Week 1: Decimal and Fraction Operations

Adding & Subtracting Decimals

1. Write the problem vertically, lining up the decimal points.
2. Add additional zeroes at the end, if necessary, to make the numbers have the same number of decimal places.
3. Add/subtract as if the numbers are whole numbers
4. Bring the decimal point straight down



ex: 14.2 - 7.934

$$\begin{array}{r} 14.200 \\ -\ 7.934 \\ \hline 6.266 \end{array}$$

Multiplying Decimals

1. Write the problem vertically with the numbers lined up to the right. The decimal points do NOT need to be lined up.
2. Ignore the decimals and multiply as if the numbers are whole numbers.
3. Count the total number of decimal places in the factors and put a decimal point in the product so that it has that same number of decimal places.

ex: 6.94 x 7.8

$$\begin{array}{r} 6.94 \\ \times\ 7.8 \\ \hline 5552 \\ +\ 48580 \\ \hline 54132 \end{array}$$

6.94 → 2 decimal places
7.8 → 1 decimal place
3 decimal places

54.132

Dividing Decimals

1. Write the dividend under the long division symbol and the divisor to the left of it.
2. Move the decimal point in the divisor after the number to turn it into a whole number and then move the decimal in the dividend the same number of places. Then bring it up.
3. Divide as if the numbers are both whole numbers.
4. Annex zeros in the dividend as needed until there is no remainder. If your answer is a repeating decimal, write the answer using bar notation.

ex: 25.3 ÷ 0.3

$$0.3\overline{)25.30}\quad 84.\overline{3}$$

$$\begin{array}{r} -24 \\ \hline 13 \\ -12 \\ \hline 10 \\ -\ 9 \\ \hline 1 \end{array}$$

Order of Operations

1. Grouping Symbols (parentheses, brackets, etc.)
2. Exponents
3. Multiplication & Division (left to right)
4. Addition & Subtraction (left to right)

ex: 5 + 4(3 - 1.2)

5 + 4(1.8)

5 + 7.2

12.2

Evaluate each expression.

1. $5.983 + 2.99$	2. $224 - 56.73$	3. $6.12 - 4.923$
4. $24.5 \cdot 3.2$	5. $0.23 \cdot 7$	6. $3.86 \cdot 9.15$
7. $14.8 \div 5$	8. $46.3 \div 1.5$	9. $147 \div 2.25$
10. $24.33 - 2.5 \cdot 7$	11. $3.9 + 4.5^2$	12. $9.25(18.4 - 2 \cdot 1.2)$

Solve each word problem, showing all work.

13. Jeff had \$46.18 in his wallet Monday morning. He gave half of his money to his brother. He then bought two donuts for \$0.75 each and a cup of coffee for \$2.99. How much money did Jeff have left?	14. Five friends split a \$65.20 bill at a restaurant. They also each left \$2.75 for the tip. How much money did each person pay in all?

Adding Fractions & Mixed Numbers

1. Find a common denominator for the two fractions.
2. Add the two numerators and keep the denominator the same.
3. Add the whole numbers.
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $3\frac{3}{4} + 2\frac{1}{2}$

$3\frac{3}{4} = 3\frac{3}{4}$

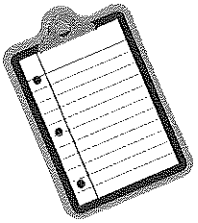
$+ \quad 2\frac{1}{2} = 2\frac{2}{4}$

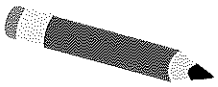
$5\frac{5}{4} = \boxed{6\frac{1}{4}}$

Subtracting Fractions & Mixed Numbers

1. Find a common denominator for the two fractions.
2. Subtract the two numerators and keep the denominators the same. If the top numerator is smaller than the bottom numerator, borrow from the whole number and rename the top fraction.
3. Subtract the whole numbers.
4. Simplify the answer.

ex: $5\frac{1}{4} - 1\frac{2}{3}$





$5\frac{1}{4} = 5\frac{3}{12} = 4\frac{15}{12}$

$- \quad 1\frac{2}{3} = 1\frac{8}{12} = 1\frac{8}{12}$

$\boxed{3\frac{7}{12}}$

Multiplying Fractions & Mixed Numbers

1. Turn any mixed numbers and whole numbers into improper fractions.
2. Cross-simplify if possible.
3. Multiply the numerators and then multiply the denominators
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $2\frac{1}{6} \cdot \frac{4}{7}$

$\frac{13}{3\cancel{6}} \cdot \frac{\cancel{4}^{2}}{7} = \frac{26}{21} = \boxed{1\frac{5}{21}}$

Dividing Fractions & Mixed Numbers

1. Turn any mixed numbers and whole numbers into improper fractions.
2. Keep the first fraction the same, change the division to multiplication, and flip the second fraction to its reciprocal.
3. Multiply the fractions.
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $7 \div 1\frac{3}{4}$

$\frac{7}{1} \div \frac{7}{4}$

$\frac{1\cancel{7}}{1} \cdot \frac{4}{\cancel{7}_{1}} = \frac{4}{1} = \boxed{4}$

Evaluate each expression.

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

Solve each word problem, showing all work.

27. Jaimie ran $3\frac{1}{2}$ miles on Monday. She ran half as far on Tuesday as she did on Monday. How far did Jaimie run in all on Monday and Tuesday?	28. A $5\frac{1}{2}$ quart pot is filled $\frac{2}{3}$ of the way with water. How many more quarts of water can the pot hold?

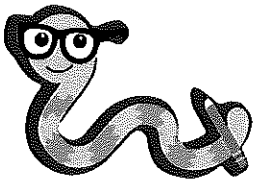
Week 2: Ratios and Proportions

Ratios

Ratios are comparisons of two quantities.
There are 3 different ways to write ratios:

- Fraction $\left(\frac{A}{B}\right)$
- Colon (A:B)
- Word Form (A to B)

Ratios can be simplified just like fractions.



ex: write the ratio of triangles to circles in 3 ways: ▲▲▲▲◎◎

$\frac{4}{2} = \boxed{\frac{2}{1},\ 2:1,\ 2 \text{ to } 1}$

Rates & Unit Rates

Rates are ratios that compare quantities measured in different units.
A unit rate is a rate with a denominator of 1.

To convert a rate to a unit rate:

1. Divide the numerator by the denominator
2. Either write your answer as a fraction with a label for the both the numerator and denominator OR as one number labeled with the first unit "per" the second unit

ex: express as a unit rate: 125 miles in 4 hours

$\frac{125 \text{ mi}}{4 \text{ hr}}$ $125 \div 4 = 31.25$

$\boxed{\frac{31.25 \text{ mi}}{1 \text{ hr}} \text{ or } 31.25 \text{ miles per hr}}$

Fractions, Decimals, & Percent

To convert a:

- Decimal to Percent: move the decimal point 2 places to the right — ex: $0.345 = \boxed{34.5\%}$
- Percent to Decimal: move the decimal point 2 places to the left — ex: $7\% = \boxed{0.07}$
- Decimal to Fraction: write the decimal over the place value of the last digit and then simplify — ex: $0.008 = \frac{8}{1000} = \boxed{\frac{1}{125}}$
- Fraction to Decimal: divide the numerator by the denominator — ex: $\frac{1}{5} = 5\overline{)1.0}\ \boxed{0.2}$
- Percent to Fraction: write the percent over 100 and then simplify — ex: $45\% = \frac{45}{100} = \boxed{\frac{9}{20}}$
- Fraction to Percent: convert the fraction to a decimal and then convert the decimal to a percent — ex: $\frac{3}{10} = 0.3 = \boxed{30\%}$

Percent of a Number

1. Turn the percent to a fraction or decimal.
2. Multiply the fraction/decimal by the number.

ex: Find 18% of 40

$0.18 \cdot 40 = \boxed{7.2}$

Write each ratio in 3 ways.

29. A bank contains 15 pennies and 12 nickels. Write the ratio of nickels to pennies.	30. A bowl contains 6 apples and some bananas. If there are a total of 10 pieces of fruit, find the ratio of apples to bananas.

Convert each rate to a unit rate.

31. $4.25 for 64 fluid ounces	32. 297 miles on 11 gallons of gas	33. 124 feet in 10 seconds

Complete the chart by converting each number to a percent, fraction, and/or decimal.

Fraction	Decimal	Percent
34. $\frac{3}{8}$		
35.	0.45	
36.		72%
37.	0.1	
38. $\frac{3}{200}$		

Find each percent of a number.

39. 30% of 90	40. 15% of 38	41. 50% of 86
42. 75% of 160	43. 24% of 35	44. 2% of 74

Unit: NUMBER RELATIONSHIPS and COMPUTATION

Objective: Identify and determine equivalent forms of proper **fractions** as **decimals**, percents, and ratios - **A**.

Examples: Write $\frac{21}{25}$ as a decimal

Method 1:

Change $\frac{21}{25}$ to a fraction with a denominator of 10, 100, or 1000

EX: $\frac{21}{25} = \frac{?}{100}$

(Use 100, since 25 divides into 100 evenly)

$\frac{21}{25} = \frac{x4}{x4} = \frac{84}{100}$ $\frac{84}{100} = 0.84$ as a decimal

Method 2: Divide 21 by 25

$\frac{21}{25} \rightarrow 25\overline{)21.00}$ $\frac{0.84}{}$

-200

100

-100

Therefore: $\frac{21}{25} = 0.84$

1.) Write $\frac{19}{20}$ as a decimal. Use method 1

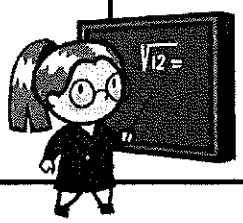
2.) Write $\frac{7}{8}$ as a decimal. Use method 2.

3.) Write $\frac{3}{16}$ as a decimal. Use method 2

4.) Write $\frac{27}{40}$ as a decimal. Use method 2

5.) Write $\frac{3}{4}$ as a decimal. Use method 1

6.) Write $\frac{3}{5}$ as a decimal. Use method 1



Unit: NUMBER RELATIONSHIPS and COMPUTATION
Objective: Identify and determine equivalent forms of proper **fractions** as decimals, **percents**, and ratios - **B**.

Key Concept: Percent (%) is a ratio that compares a number to **100**

Fraction to Percent:

EX: Change $\frac{19}{25}$ to a percent

Since % means out of 100, $\frac{19}{25} = \frac{?}{100}$

$\frac{19}{25} = \frac{x4}{x4} = \frac{76}{100}$

$\frac{76}{100} = 76\%$

Percent to fraction:

EX: Change 75% to a fraction in simplest form

75% means *75 out of 100*

$75\% = \frac{75}{100}$ **Write the percent as a fraction with a denominator of 100**

$\frac{75 \div 25}{100 \div 25} = \frac{3}{4}$ **Simplify**

1.) Change $\frac{17}{20}$ to a percent

2.) Change 84% to a fraction in simplest form

3.) Change $\frac{3}{4}$ to a percent

4.) Change 90% to a fraction in simplest form

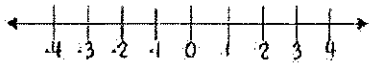
5.) Juan answered $\frac{24}{25}$ questions correctly on his quiz. What percent of the questions did he get correct?

6.) 78% of the class completed their homework last night. What fraction of the class completed their homework?

Week 3: Number System and Geometry Part 1

Comparing Integers

Integers are numbers without fractional parts. They can be positive, negative, or zero. The further right a number is on the number line, the greater it is.



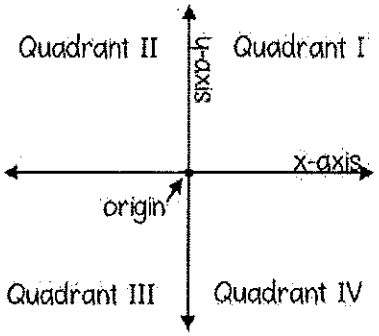
The absolute value of a number is the distance the number is from zero.

ex: compare with <, >, or =

$-7 \bigcirc |-9|$ ← The absolute value of $-9 = 9$

$-7 \boxed{<} 9$

The Coordinate Plane

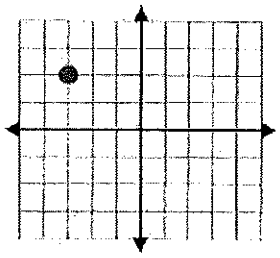


Ordered Pair: (x, y)

To graph a point on the coordinate plane, start at the origin. The first number in the ordered pair (the x-coordinate) tells you how far left (if negative) or right (if positive) to move. The second number (the y-coordinate) tells you how far up (if positive) or down (if negative) to move.

ex: Graph the point (-3, 2) and state the quadrant in which it is located.

Start at the origin, and move LEFT 3 and UP 2

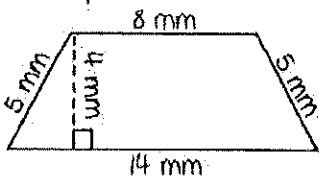


Quadrant II

Perimeter, Area and Volume

- Perimeter of Any Polygon: add all side lengths
- Area of a Rectangle: $A = lw$
- Area of Parallelogram: $A = bh$
- Area of Triangle: $A = \frac{1}{2}bh$
- Area of Trapezoid: $A = \frac{1}{2}h(b_1 + b_2)$
- Volume of Rectangular Prism: $V = lwh$

ex: Find the perimeter & area:



Perimeter: $P = 5 + 8 + 5 + 14 = \boxed{32 \text{ mm}}$

Area: This is a trapezoid, so use the area of a trapezoid formula: $A = \frac{1}{2}h(b_1 + b_2)$

The bases are the sides that are parallel, and the height is perpendicular to the bases.

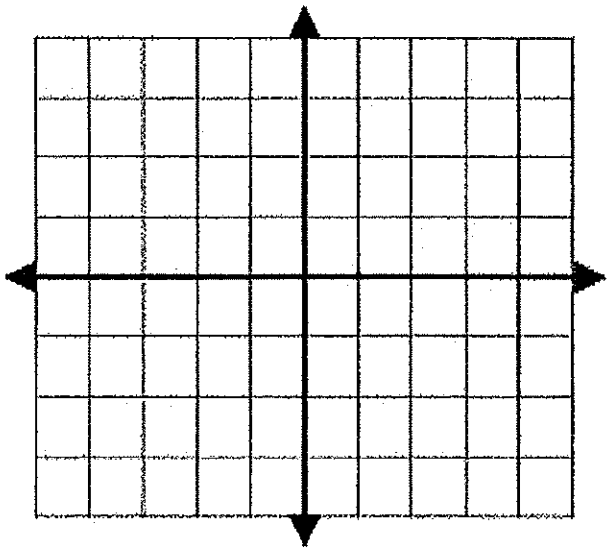
→ $A = \frac{1}{2}(4)(8+14) = \boxed{44 \text{ mm}^2}$

Compare the integers with <, >, or =.

45. $-4 \bigcirc -5$	46. $2 \bigcirc -2$	47. $\lvert -5\rvert \bigcirc \lvert 5\rvert$	48. $-7 \bigcirc 6$	49. $-13 \bigcirc -9$
50. $\lvert -7\rvert \bigcirc -6$	51. $-17 \bigcirc -14$	52. $\lvert -3\rvert \bigcirc \lvert -2\rvert$	53. $0 \bigcirc -6$	54. $\lvert -4\rvert \bigcirc \lvert 6\rvert$

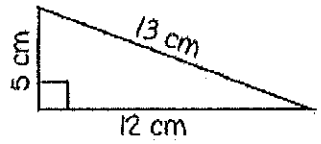
Graph and label each of the ordered pairs in the coordinate plane. Then state the quadrant or axis in/on which the point is located.

55. A(2, 4)	56. B(0, -3)
57. C(1, -1)	58. D(3, 3)
59. E(-4, 1)	60. F(2, 0)
61. G(-3, -2)	62. H(-2, 3)
63. I(0, 2)	64. J(-1, -4)

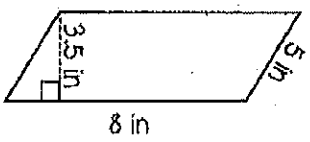


Find the perimeter, area,

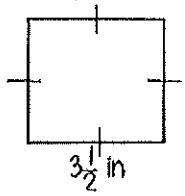
65. Find the perimeter & area:



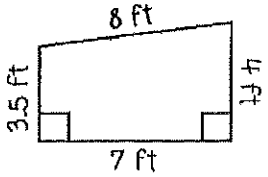
66. Find the perimeter & area:

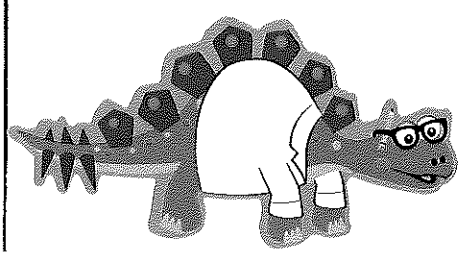


67. Find the perimeter & area:



68. Find the perimeter & area:



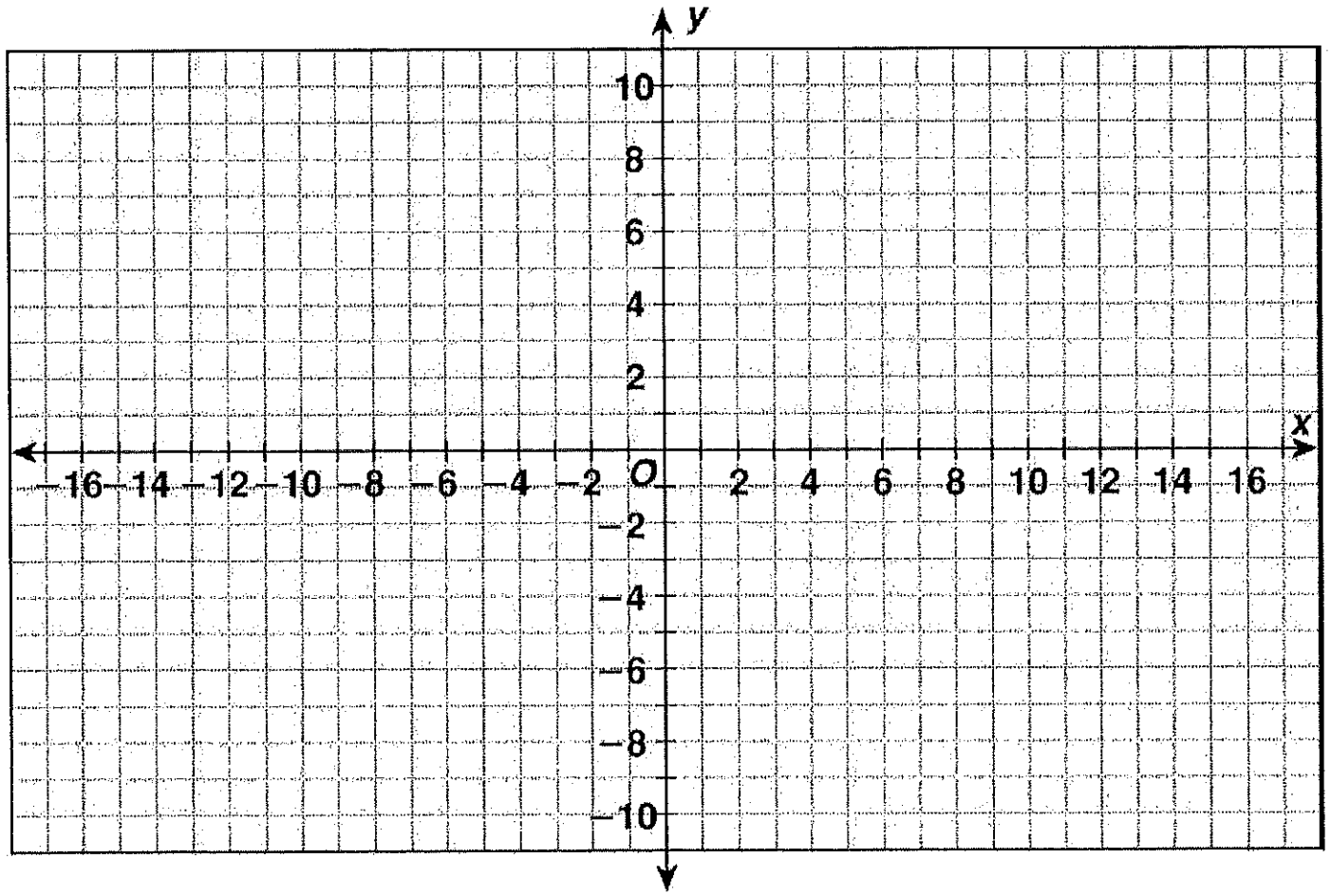


BRAND *spanking* NEW DAY

The Coordinate Plane

Graph each point on the grid below. Connect each point to the previous one as you graph it. Then connect the last point to the first point.

1. (0, –10)	2. (–1, –9)	3. (–2.5, –7)	4. (–5, –7)
5. (–6, –5)	6. (–10, –5)	7. (–13, –3)	8. (–15, –1)
9. (–16, 2)	10. (–15, 8)	11. (–15, 10)	12. (–3, 9)
13. (4, 8)	14. (4, 7)	15. (6, 8)	16. (6, 4)
17. (8, 6)	18. (9, 6)	19. (9, 3)	20. (11, 5)
21. (16, 10)	22. (18, 8)	23. (16, 6)	24. (18, 4)
25. (14, 1)	26. (14, –1)	27. (11, –5)	28. (12.5, –8)
29. (13, –10)	30. (11, –9)	31. (9, –6)	32. (2.5, –7)



Priority

Week # 4

Please show any work you have done to complete each problem.

Order of Operations:

Remember: PEMDAS (Parenthesis first, exponents second, multiplication and division from left to right, third, and addition and subtraction from left to right, last)

1) $24 \div 2 \cdot 3$

2) $3 + 4 - 2$

3) $33 - 9 \cdot 3$

4) $5 + 4 \cdot 9$

5) $(25 - 10) \div (2 + 3)$

6) $\frac{4(2+3)}{13-10\div 2}$

7) $2 \cdot (4 + 3)^2$

8) $4^3 + 2 \cdot 2$

9) $4 + 9 \cdot 3^2$

10) $54 - 2 \cdot 3$

Subtract fractions and mixed numbers. Remember to simplify your answer by reducing to lowest terms or writing as a mixed number.

1. $\frac{7}{9} - \frac{5}{9} =$ _____

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

3. $20\frac{3}{8} - 14\frac{1}{2} =$ _____

4. $18\frac{1}{7} - 12\frac{3}{7} =$ _____

5. $\frac{9}{20} - \frac{5}{12} =$ _____

6. $\frac{8}{9} - \frac{5}{18} =$ _____

7. $\frac{11}{15} - \frac{9}{25} =$ _____

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

9. $2\frac{1}{10} - 1\frac{4}{5} =$ _____

10. $\frac{1}{4} - \frac{1}{15} =$ _____

Multiply fractions and mixed numbers.

1. $\frac{7}{9} \times \frac{18}{49} =$ _____

2. $\frac{4}{7} \times \frac{1}{5} \times \frac{7}{16} =$ _____

3. $2\frac{5}{6} \times 4\frac{1}{2} =$ _____

4. $\frac{3}{10} \times 25 =$ _____

5. $\frac{7}{20} \times \frac{5}{12} =$ _____

6. $\frac{8}{9} \times \frac{5}{18} =$ _____

7. $\frac{3}{5} \times \frac{7}{12} \times \frac{25}{28} =$ _____

8. $2\frac{1}{4} \times 18 =$ _____

9. $2\frac{1}{10} \times 1\frac{4}{7} =$ _____

10. $\frac{1}{4} \times \frac{1}{15} =$ _____

Week 5: Expressions and Equations

Evaluating Algebraic Expressions

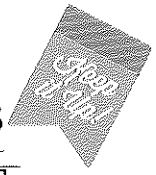
1. Substitute the given numbers for the variables
2. Evaluate the expression using the order of operations

ex: evaluate $x + 4y$ for $x = 4$ & $y = 6$

$4 + 4(6)$

$4 + 24 = \boxed{28}$

One-Step Addition & Subtraction Equations



- Addition Equations: Subtract the number being added to the variable from both sides of the equation

ex: $4 + x = 18$
$-4 \quad -4$
$\boxed{x = 14}$

- Subtraction Equations: Add the number being subtracted from the variable to both sides of the equation

ex: $20 = a - 5$
$+5 \quad +5$
$25 = a \rightarrow \boxed{a = 25}$

One-Step Multiplication & Division Equations

- Multiplication Equations: Divide both sides of the equation by the number next to the variable

ex: $\frac{7b}{7} = \frac{28}{7}$
$\boxed{b = 4}$

- Division Equations: Multiply both sides of the equation by the number under the variable

ex: $5 \cdot \frac{n}{5} = 10 \cdot 5$
$\boxed{n = 50}$

Problem Solving

1. Read the problem. Identify the question that is being asked and the key information in the problem.
2. Plan how you are going to solve the problem and estimate the answer.
3. Solve the problem using the strategy of your choice.
4. Check your answer. Make sure your answer is reasonable and compare it to your estimate. Label your answer with appropriate units.

Evaluate each expression for $a = 5$, $b = 12$, $c = 10$, & $d = 2$.

71. $2b - a$	72. $d(ab - c)$	73. $3 + \frac{b}{d}$
74. $\frac{4a}{b + 4d}$	75. $2a^2 - c$	76. $b - c + d$

Solve each one-step equation.

77. $g + 3 = 17$	78. $r - 6 = 7$	79. $6b = 18$	80. $\frac{h}{9} = 3$
81. $5 = f - 8$	82. $48 = 12b$	83. $a + 24 = 83$	84. $17 + x = 23$
85. $10 = \frac{m}{5}$	86. $86.5 = f - 7.63$	87. $\frac{n}{6} = 11$	88. $\frac{3}{4}h = 12$

Unit: KNOWLEDGE of ALGEBRA, PATTERNS, and FUNCTIONS
Objective: Determine the unknown in a linear equation (addition & subtraction).

- **Addition equations**: Subtract the same number from each side of the equation so that the two sides remain equal.
- **Subtraction equations**: Add the same number to each side of the equation so that the two sides remain equal.

Examples:

b + 3 = 6	original equation
- 3 - 3	subtract 3 from each side
b + 0 = 3	solution
b = 3	simplify

b – 8 = 4	original equation
+8 +8	add 4 to each side
b + 0 = 12	solution
b = 12	simplify

1.)

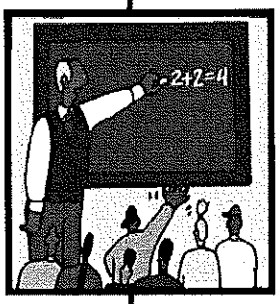
g + 5 = 12

2.)

s – 12 = 29

3.)

m + 3.5 = 10.5



4.)

k – 5.5 = 8.5

5.)

w + 6.25 = 22

6.)

g – 3.75 = 49.75

Unit: KNOWLEDGE of ALGEBRA, PATTERNS, and FUNCTIONS
Objective: Determine the unknown in a linear equation (multiplication & division).

- In a **multiplication equation**, the number by which a variable is multiplied is called the **coefficient**. In the multiplication equation $2x = 8$, the coefficient is 2.
- **Multiplication equations**: Divide both sides by the coefficient so that the two sides remain equal.
- In a **division equation**, the number by which the variable is divided is called the **divisor**. In the division equation $\frac{x}{4}$, 4 is the divisor.
- **Division equations**: Multiply both sides of the equation by the divisor so that the two sides remain equal.

Examples:

$4b = 16$		original equation	$\frac{m}{6} = 11$		original equation
$\frac{}{4}$	$\frac{}{4}$	divide both sides by 4	$6 \times \frac{m}{6} = 11 \times 6$		multiply each side by 6
$1b = 4$		solution	$1m = 66$		solution
$b = 4$		simplify	$m = 66$		simplify

1.)

$7x = 63$

2.)

$\frac{k}{9} = 8$

3.)

$5b = 3.55$

4.)

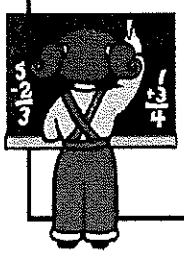
$\frac{n}{7} = 5.55$

5.)

$12m = 84.72$

6.)

$\frac{p}{13} = 2.67$



Week 6:

(1) $17 - {}^{-}6 =$

(2) ${}^{-}80 \div {}^{-}8 =$

(3) $23 - {}^{-}8 =$

(4) $40 \div {}^{-}5 =$

(5) ${}^{-}64 \div {}^{-}8 =$

(6) $15 + 3 =$

(7) $7 \times 12 =$

(8) $4 - {}^{-}2 =$

(9) $5 + 1 =$

(10) $3 - 2 =$

(11) $45 \div {}^{-}5 =$

(12) ${}^{-}7 - {}^{-}2 =$

(13) ${}^{-}16 + {}^{-}10 =$

(14) ${}^{-}14 + {}^{-}3 =$

(15) $12 \times {}^{-}12 =$

(16) $81 \div {}^{-}9 =$

(17) $80 \div {}^{-}10 =$

(18) $15 + {}^{-}19 =$

(19) ${}^{-}22 - {}^{-}15 =$

(20) $4 - 2 =$

(21) $18 \div 6 =$

(22) $26 + 13 =$

(23) $11 - {}^{-}1 =$

(24) ${}^{-}24 \div 4 =$

(25) ${}^{-}25 + {}^{-}5 =$

(26) $8 + {}^{-}25 =$

(27) $21 + {}^{-}7 =$

(28) ${}^{-}18 - {}^{-}16 =$

(29) $10 + 5 =$

(30) ${}^{-}9 \times 3 =$

(31) ${}^{-}72 \div {}^{-}6 =$

(32) $1 + {}^{-}6 =$

(33) $10 + 26 =$

(34) $15 - 13 =$

(35) $26 + {}^{-}15 =$

(36) $25 - 1 =$

(37) $9 - 6 =$

(38) $(-5) + 7 =$

(39) $(-9) + (-2) =$

(40) $7 - (-2) =$

(41) $(-2) + 2 =$

(42) $(-8) - 1 =$

(43) $5 - (-1) =$

(44) $2 + 1 =$

(45) $7 + 1 =$

(46) $15 \div 3 =$

(47) $8 \div (-4) =$

(48) $(-4) - 4 =$

(49) $9 \times (-8) =$

(50) $25 \div (-5) =$

(51) $1 + 7 =$

(52) $4 \div 2 =$

(53) $(-6) \times (-1) =$

(54) $5 \times 6 =$

(55) $16 \div 2 =$

(56) $5 + 5 =$

(57) $(-5) \times (-2) =$

(58) $6 \times (-8) =$

(59) $9 + (-7) =$

(60) $(-27) \div (-3) =$

(61) $9 - 1 =$

(62) $4 \times (-7) =$

(63) $(-2) - 7 =$

(64) $3 + 4 =$

(65) $(-6) - (-1) =$

(66) $5 - (-4) =$

Week 7: Statistics

Unit: KNOWLEDGE of STATISTICS

Objective: Determine the measures of central tendency (mean, median, and mode) and the range.

A number that helps **describe all of the data** in a data set is a **measure of central tendency**.
The **mean** is the sum of the data divided by the number of pieces of data.
The **median** is the middle number of the ordered data (least to greatest.)
The **mode** is the number or numbers that occur most often.
The **range** is the difference between the greatest and least values of the data set.

Examples:

Jacket Prices ($)			
25	34	39	41
45	52	27	22
56	61	15	27

Find the mean, median, mode, and range of the data.

$$\text{Mean} = \frac{25 + 34 + 39 + 41 + 45 + 52 + 27 + 22 + 56 + 61 + 15 + 27}{12}$$

$$= \frac{444}{12} = \mathbf{37}$$ The mean price of a jacket is $37.

Median = 15 22 25 27 27 34 39 41 45 52 56 61 (data ordered)

$$= \frac{34 + 39}{2} = \mathbf{36.5}$$ The median price of a jacket is $36.50.

Mode = **$27** because it is the only piece of data that occurs more than once.

Range = 61 – 15 = **$46**

1.) Find the mean, median, mode, and range for each set of data.

6, 9, 2, 4, 3, 6, 5

2.) Find the mean, median, mode, and range for each set of data.

13, 7, 17, 19, 7, 15, 11, 7, 21

3.) Find the mean, median, mode, and range for each set of data.

28, 32, 23, 43, 32, 27, 21, 34

4.) Find the mean, median, mode, and range for each set of data.

157, 124, 157, 124, 157, 139

Exercises: SHOW ALL WORK.
Find the **mean, median, range, and mode** of each of the following data sets. You may use a calculator to identify the mean.

a. 54, 65, 74, 35, 87

b. 54.6, 45.98, 67.4, 55.6, 45.7, 58.9

c. 122, 145, 156, 176, 198, 202

d. 11, 14, 16, 15, 32, 23, 27, 27, 23, 43

e. 6, 7, 8, 4, 6, 5, 8, 3, 6, 8, 5, 4

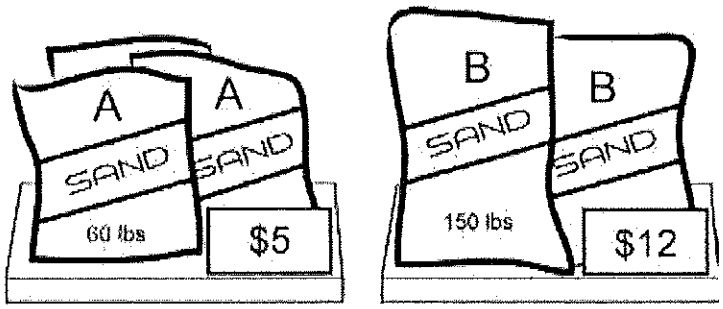
f. -4, 7, -3, 4, 8, 12, -5, -3, 8, 16, 9

f. 43, 56, 98, 67, 87

h. 12, 15, 14, 18, 33, 32, 24, 26, 27

Week 8: Performance Task #1 **Apply skills and Explain your thinking!**

Alisa hopes to play beach volleyball in the Olympics someday. She has convinced her parents to allow her to set up a beach volleyball court in their backyard. A standard beach volleyball court is approximately 26 feet by 52 feet. She figures that she will need the sand to be one foot deep. She goes to the hardware store to shop for sand and sees the following signs on pallets containing bags of sand.



a. What is the rate that Brand A is selling for? Give the rate and then specify the unit rate.

b. Which brand is offering better value? Explain your answer.

c. Alisa uses her cell phone to search how many pounds of sand is required to fill 1 cubic foot and finds the answer is 100 pounds. Choose one of the brands and compute how much it will cost Alisa to purchase enough sand to fill the court. Identify which brand was chosen as part of your answer. Use the volume formula, $V = l \cdot w \cdot h$, to determine your answer.

Week 9: Performance Task #2 **Apply skills and Explain your thinking!**

Loren and Julie have different part-time jobs after school. They are both paid at a constant rate of dollars per hour. The tables below show Loren and Julie's total income (amount earned) for working a given amount of time.

Loren

Hours	2	4	6	8	10	12	14	16	18
Dollars	18	36	54	72	90	108			162

Julie

Hours	3	6	9	12	15	18	21	24	27
Dollars	36		108	144	180	216		288	324

a. Find the missing values in the two tables above.

b. Who makes more per hour? Justify your answer.

c. Write how much Julie makes as a rate. What is the unit rate?

d. How much money would Julie earn for working 16 hours?

e. What is the ratio between how much Loren makes per hour and how much Julie makes per hour?

f. Julie works $\frac{1}{12}$ hours/dollar. Write a one or two-sentence explanation of what this rate means. Use this rate to find how long it takes for Julie to earn $228.

Online math resources

Explore

Below is a list of websites to keep your mind fresh mathematically over the summer. Try to visit them daily or weekly so that you are ready

Khan Academy: www.khanacademy.org/
With a library of over 3000 videos covering everything from arithmetic to physics, finance, and history and hundreds of skills to practice, we're on a mission to help you learn what you want, when you want, at your own place.

Kuta Software: www.kutasoftware.com/
Software for math teachers that creates exactly the worksheets you need in a matter of minutes. Try for free. Available for Pre-Algebra, Algebra 1, Geometry, and Algebra 2.

AAA Math & Purple Math: www.aaamath.com/ & www.purple math.com/
These two sites feature comprehensive sets of interactive mathematics lessons. Practice is available on most topics, which allows for thorough mastery of the concepts.

Cool Math 4 Kids: www.coolmath.com/
This fully interactive site and allows the user to sharpen basic math skills, play games and explore new math concepts. And it's not just fun and games! There are lessons, printable materials, and a math dictionary that extend into high school material.

Math is Fun: www.mathsisfun.com/
Lessons, animations and explanations on just about any middle school and high school math topic you could need!

Big Ideas Math: www.bigideasmath.com/
Look familiar? This is the companion site for our textbook! Simply choose your book and open it up. Video clips and interactive practice are also included.

FunBrain:""7 www.funbrain.com/
FunBrain is the #1 site for online educational games for kids of all ages. (math, grammar, science, spelling, and history)

Math Playground""7www.mathplayground.com/
Online Math Games that Give your Brain a Workout

Engage in Creative Thinking

Visit the following websites for creative thinking and problem solving problems!

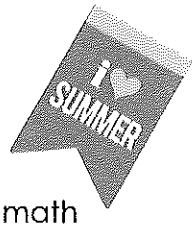
Absurd Math http://www.tower23.com/abmathcdrom/index.html Absurd Math is an interactive mathematical problem solving game series

Brain Rashers: http://www.brainbashers.com/ BrainBashers is a collection of brain teasers, puzzles, riddles and optical illusions

Math Challenge: http://mathschallenge.net/ A website dedicated to the puzzling world of mathematics

Student Evaluation/Reflection Form

Complete this form after finishing the summer math challenge



1. How would you rate the difficulty of the problems in general throughout the summer math challenge? Please rate on a scale from 1-10, with 1 being the easiest and 10 being the hardest.

1 (easiest) 2 3 4 5 6 7 8 9 10 (hardest)

2. What types of problems in the Packet were the most difficult and why?

3. What types of problems in the packet were the easiest and why?

4. When did you complete the Packet? How did you pace yourself when completing the packet? (Did you do it every day, once a week, completed it in a few days?)

5. List at least 3 goals you have for 7th-grade math.

   1) _____

   2) _____

   3) _____

6. Explain how you plan to achieve those goals.

Thank you for taking the time to complete this evaluation/reflection!
I really appreciate your input!

Parents Evaluation/Reflection Form

1. **How difficult did you feel this summer math challenge was for your student? Was it too easy or too difficult or somewhere in the middle?**

2. **How much help did you give your son or daughter in completing this challenge?** (packet)

3. **What would you say was the most difficult thing about the summer math challenge?** (packet)

Student Name:_____ Preferred Name:_____

Parent/Guardian(s) names: _____

Parent/Guardian(s) emails: _____

Parent/Guardian(s) phone numbers: _____

Student and Parent/Guardian Declaration

I have completed this packet to the best of my ability. I am prepared to turn it in

_____ Student Signature

_____ Parent/Guardian Signature