

Name: _____

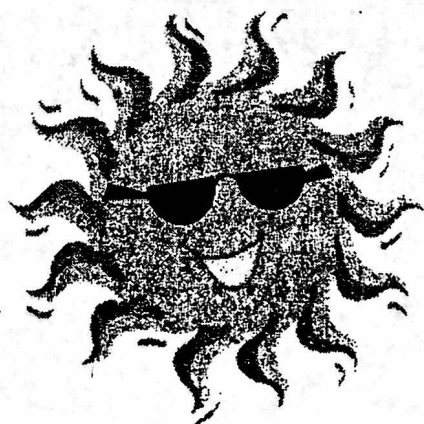
6th Grade Math Teacher/Class Level: _____

Seventh Grade Summer Math Packet

- This packet is designed to help you retain the information you learned in math in previous years.
- This packet will be due the first day of school.
- Please complete the packet showing all work! Credit will not be given if work is not shown.
- Do not use a calculator.

Parent Signature _____ Date _____

Enjoy Summer Break



Operations with Decimals

<p>Addition</p> <p>To add or subtract decimals, simply line up the decimal points and then add or subtract as usual.</p>	<p>$45.67 + 0.3 + 400.3 =$</p> $\begin{array}{r} 45.67 \\ .30 \\ 400.30 \\ \hline 446.27 \end{array}$
<p>Subtraction</p> <p>To add or subtract decimals, simply line up the decimal points and then add or subtract as usual.</p>	<p>$76.33 - 3.2 =$</p> $\begin{array}{r} 76.33 \\ -3.20 \\ \hline 73.13 \end{array}$
<p>Multiplication</p> <p>To multiply decimals, just multiply as usual and then count the total number of digits above the line that are to the right of all decimal points. Place the decimal point in your answer so that there is the same number of digits to the right of the decimal point as there are above the line.</p>	<p>$3.12 \times 0.5 =$</p> $\begin{array}{r} 3.12 \\ \cdot 5 \\ \hline 1560 \\ \hline 1.56 \end{array}$
<p>Division</p> <p>To divide decimals, if the number you're dividing by has a decimal, move the decimal to the right as many places as possible and then move it under the division sign just as many places (add zeros if necessary). Move the decimal up to your answer.</p>	<p>$21.84 \div 4.2 =$</p> $4.2 \overline{)21.84} = 5.2$ $\begin{array}{r} 52 \\ 42 \overline{)2184} \\ -210 \\ \hline 84 \\ -84 \\ \hline 0 \end{array}$

1) $50.48 + 62.43 + 17.83 =$

2) $193.4 - 16.97 =$

3) $0.07 + 12.4 + 36 =$

4) $653 - 7.475 =$

5) $74.8 \times 7.5 =$

6) $0.003 \times 0.07 =$

7) $0.83 \times 12 =$

8) $50.203 \div 6.1 =$

9) $7.551 \div 3$

10) $9.435 \div 3.7 =$

11) Add forty-eight and sixty-three hundredths to fifty-seven hundredths.

12) Subtract four and seven hundred twenty-two thousandths from six and ninety-three hundredths.

13) Multiply eight and twenty-four hundredths by six and seven tenths.

14) Divide forty-four thousand nine hundred forty-three and six tenths by fifty-two.

Draw a picture of your favorite summer activity.

Operations with Fractions

<p>Addition/Subtraction</p> <ol style="list-style-type: none"> 1. Common denominators are necessary, so change all unlike denominators. To make equivalent fractions, multiply the numerator and denominator by the same number. 2. Keep mixed numbers; DO NOT change mixed numbers into improper fractions. 3. Add/subtract the numerators, put the numerator answer over the common denominators. 4. Simplify to lowest terms. 	$1. \frac{3}{8} + \frac{1}{3} + \frac{5}{6} =$ $+ \frac{3}{8} = \frac{9}{24}$ $+ \frac{1}{3} = \frac{8}{24}$ $+ \frac{5}{6} = \frac{20}{24}$ $\frac{37}{24} = 1\frac{13}{24}$ $2. 6\frac{7}{12} - 4\frac{3}{8} =$ $6\frac{7}{12} = \frac{14}{24}$ $- 4\frac{3}{8} = \frac{9}{24}$ $\frac{25}{24}$
<p>Multiplication</p> <ol style="list-style-type: none"> 1. Common denominators are NOT needed. 2. Always change mixed numbers to improper fractions. 3. Cross-simplify if possible between any numerator and any denominator. 4. Multiply numerator times numerator and denominator times denominator. 5. Simplify to lowest terms. 	$1. 4 \times \frac{3}{8} =$ $\frac{4}{1} \times \frac{3}{8} = \frac{3}{2} = 1\frac{1}{2}$ $2. 3\frac{1}{5} \times 2\frac{3}{4} =$ $\frac{16}{5} \times \frac{11}{4} = \frac{44}{5} = 8\frac{4}{5}$
<p>Division</p> <ol style="list-style-type: none"> 1. Common denominators are NOT needed. 2. Always change mixed numbers to improper fractions. 3. Multiply the first number by the reciprocal of the second number. 4. Simplify to lowest terms. 	$1. \frac{3}{4} \div 5 =$ $\frac{3}{4} \div \frac{5}{1}$ $= \frac{3}{4} \cdot \frac{1}{5} = \frac{3}{20}$ $2. 5\frac{1}{4} \div 4\frac{2}{3} =$ $\frac{21}{4} \div \frac{14}{3}$ $= 3\frac{3}{4} \cdot \frac{3}{14} = \frac{9}{8} = 1\frac{1}{8}$

1) $\frac{7}{8} + \frac{1}{4} =$	2) $3\frac{1}{4} + 2\frac{4}{5} =$	3) $9\frac{7}{8} + \frac{3}{4} =$
4) $\frac{5}{6} - \frac{3}{4} =$	5) $4\frac{5}{6} - 1\frac{1}{2} =$	6) $6\frac{1}{3} - 3\frac{5}{6} =$
7) $6 - \frac{9}{10} =$	8) $\frac{4}{9} \times \frac{2}{3} =$	9) $2 \times 3\frac{2}{5} =$
10) $2\frac{4}{5} \times 1\frac{1}{7} =$	11) $3\frac{3}{4} \times 2\frac{1}{3} =$	12) $5 \div \frac{1}{3} =$
13) $\frac{7}{9} \div \frac{2}{3} =$	14) $3\frac{1}{3} \div 1\frac{1}{2} =$	What is your favorite after school activity?

Converting Fractions, Decimals and Percents

Fraction to Decimal → Divide $\frac{3}{4} = 0.75$ $\frac{2}{3} = 0.\bar{6}$	Decimal to Percent → multiply by 100 (move the decimal two places to the right and add a percent sign) $0.75 = 75\%$ $0.08 = 8\%$	Percent to Decimal → Divide by 100 (move decimal two places to the left) $65\% = 0.65$ $134\% = 1.34$
--	--	--

Convert the following.

Decimal	Fraction	Percent
0.68		
	$\frac{3}{5}$	
		27%
0.04		
	$\frac{1}{3}$	
		139%
0.25		
	$\frac{7}{8}$	
		36%
3.5		

Order of Operations

1. Parenthesis (all grouping symbols)
2. Exponents
3. Multiply/Divide from left to right
4. Add/Subtract from left to right

Find the value of each numeric expression.

1) $8 + 9 - 3 + 5 =$	2) $7 \cdot 5 + 2 \cdot 3 =$	3) $(84 \div 4) \div 3 =$
4) $67 + 84 - 12 \cdot 4 =$	5) $(9 + 4)(8 - 7) =$	6) $(15 + 21) \div 3 =$
7) $6(38 - 12) + 4 =$	8) $5 \cdot 6 - 25 \div 5 - 2 =$	9) $\frac{18+66}{35-14}$
10) $6 \cdot 3 \div 9 \cdot 2 + 1 =$	11) $2^3 - 7 + 4 =$	12) $2(5 + 4) - 3^2 \cdot 2 =$

Evaluate each expression if $x = 3$, $y = 4$, and $z = 5$.

1) $6x - 3y =$	2) $\frac{y-x}{z-y} =$	3) $14x - (2y + z) =$
4) $2x + 3z + y =$	5) $x(y + z + 4) =$	6) $\frac{4z + 2y}{7} =$

Simplify each expression.

1) $6x + 3y + 6y - 2x$	2) $5(x + 2y) + 6x$	3) $m + 3m + 8$
4) $5a + 2b - 2a + 6b$	5) $18 + 7x - 12 + 5x$	6) $12a + 3 + 18 - 9a$
7) $10b - b + 1$	7) $3xy + 2xy - xy$	8) $3a + 2ab + 5a + 6ab$

Solve and check each equation.

Solve	Check	Solve	Check
Ex: $z - 5 = 19$ $+5 = +5$ $z = 24$	$24 - 5 = 19$ $19 = 19 \checkmark$	1) $9 + x = 16$	
2) $\frac{x}{6} = 12$		3) $6c = 54$	
4) $12 + r = 76$		5) $18n = 378$	
6) $32 = \frac{f}{8}$		7) $p - 23 = 46$	
8) $m + 15 = 20$		9) $5m = 145$	
10) $27h = 945$		11) $98 = 38 + x$	