Incoming 7th Grade Students

This summer packet will help you retain the skills you learned in 6th grade so we can continue to build on these when you return to school in August.

If you are struggling with any of the skills in this packet, search for the skill topic on the Khan Academy website: https://www.khanacademy.org that we used last year in class. On this website you will find tutorial videos as well additional practice problems.

Skill Topic – Equivalent fractions and decimals

Write each fraction or mixed number as a decimal. (Divide the numerator by the denominator.)

$\frac{5}{8} =$ _____ $\frac{19}{20} =$ _____ $3\frac{2}{3} =$ _____

Skill Topic – Equivalent percents and decimals

Write each percent as a decimal. (Divide the percent by 100, which is the same as moving the decimal two times to the left.)

24% = _____ 8.4% = _____ 135% = _____

Write each decimal as a percent. (Multiply the decimal by 100, which is the same as moving the decimal two times to the right.)

0.68 = _____ 0.4 = _____ 1.3 = _____

Skill Topic – Equivalent percents and fractions

Write each percent as a fraction in simplest form. (Write the percent as a ratio to 100 and reduce.)

49% = _____ 35% = _____ 84% = _____

Write each fraction as a percent. (Make the fraction equivalent to a fraction with a denominator of 100.)

$\frac{13}{20} =$ _____ $\frac{19}{25} =$ _____ $\frac{4}{5} =$ _____

Complete the following chart with equivalent fractions, decimals, and percents.

Fraction	Decimal	Percent
$\frac{19}{25}$		
	0.36	
		118%

Skill Topic – Operations with Decimals

- **Adding and Subtracting Decimals –** Line up the decimals before adding or subtracting. Bring the decimal straight down in the answer.

12.6 + 3.1 + 5.49 = _____ 4.67 + 19 + 3.692 = _____

25.67 – 3.982 = _____ 14 – 8.361 = _____

- **Multiplying Decimals –** The decimals do not have to be lined up. Multiply the numbers as you would whole numbers. Count the decimal places in each factor. The product (answer) will have the same number of decimals places as both factors combined.

$0.25 \times 14 =$ _____ $6.21 \times 8.3 =$ _____

$18.6 \times 9.23 =$ _____ $8.43 \times 17.6 =$ _____

- **Dividing Decimals –** If the divisor (outside number) is a decimal you must move the decimal point to the right until the decimal is behind the number making it a whole number. Then, move the decimal in the dividend (inside number) the same number of times as you did in the divisor. Then, move the decimal straight up from the dividend to the quotient and divide.

$14.36 \div 0.03 =$ _____ $5.1 \div 0.017 =$ _____

$67 \div 0.05 =$ _____ $122.08 \div 0.28 =$ _____

Skill Topic – Operations with Fractions

- **Adding and Subtracting Fractions and Mixed Numbers –** find the least common denominator before adding or subtracting. Make sure the answers are written in simplest form.

$\frac{5}{17}+\frac{6}{17}=$ _____ $\frac{3}{8}+\frac{1}{4}=$ _____

$5\frac{1}{3}-2\frac{1}{4}=$ _____ $2\frac{1}{6}+2\frac{7}{8}=$ _____

$7\frac{1}{8}-2\frac{3}{4}=$ _____ $\frac{13}{14}-\frac{1}{2}=$ _____

- **Multiplying Fractions and Mixed Numbers –** If there are any mixed numbers, change to improper fractions. Then, check to see if any of the numbers have a common factor and can cross cancel. Then, multiply the numerators, multiply the denominators, and simplify to lowest term.

$5\frac{1}{3}\times 4\frac{3}{4}=$ _____ $\frac{2}{5}\times 25=$ _____

$3\frac{1}{9}\times 15=$ _____ $8\frac{1}{3}\times 2\frac{2}{5}=$ _____

- **Dividing Fractions and Mixed Numbers –** If there are any mixed numbers, change to improper fractions. Then first fraction stays the same and multiply by the reciprocal of the second fraction. Then, following the same rules of multiplication.

$2\frac{1}{3} \div 1\frac{2}{3} =$ _____ $5 \div \frac{2}{5} =$ _____

$4\frac{2}{7} \div 1\frac{1}{5} =$ _____ $1\frac{2}{3} \div \frac{3}{5} =$ _____

Skill Topic – One step equations with all four operations.

- **Addition equations –** subtract the number on the same side of the equal sign as the variable from both sides of the equation.
- **Subtraction equations –** add the number on the same side of the equal sign as the variable to both sides of the equation.
- **Multiplication equations –** divide both sides of the equation by the coefficient.
- **Division equations –** multiply both sides of the equal sign by the denominator or the reciprocal.
- **Remember to always show what you are doing to both sides of the equation to keep the equations balanced.**

Solve the following equations.

$37 = n + 19$ $31 + n = 48$ $n - 23 = 7$

$n - 43 = 58$ $26 = n - 13$ $\frac{n}{14} = 7$

$5n = 55$

$48 = 1.2n$

$\frac{n}{12} = 6$

$n - 20.76 = 24.3$

$32 = n + 13.8$

$\frac{n}{1.2} = 17$

$r - 12 = 16$

$\frac{k}{6} = 2.3$

$\frac{h}{10} = 4\frac{2}{5}$

$\frac{3}{5} = n - \frac{2}{3}$

$\frac{2}{3}b = 4$

$a + 1\frac{3}{4} = 2\frac{7}{10}$

$1\frac{7}{8} = m + 2\frac{7}{12}$

$2.3 = 7.9 + y$

$1\frac{3}{4}\ b = 2\frac{1}{5}$