

St. Dominic Catholic School
7th Grade Summer Math Packet

Dear Incoming 7th Grade Families,

I am excited to have you for math! Please complete this summer math packet before coming back to school in August. You should be able to do everything in the packet - please ask for help if you need it! Math facts may need practice over the summer to be able to do them quickly and correctly when you come back. Please review your work as there will be a quiz the first week of school.

I've included some links to that might help you if you get stuck. You also might want to check out ixl.com which will let you try 20 questions per day. You do not need to buy the full version!

I hope you enjoy your summer break and look forward to seeing you in August!

Sincerely,

Mrs. Herbst

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Topics	Khan Academy Link
<p>Ratios, Rates, and Percentages ratios; rates; percents; percent to decimal conversions</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-ratios-prop-topic</p>
<p>Arithmetic Operations adding, subtracting, multiplying and dividing decimals; dividing whole numbers; dividing fractions by fractions; exponents; order of operations</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-arithmetic-operations</p>
<p>Negative Numbers negative decimals and fractions on the number line; number opposites, comparing negative numbers; absolute value; coordinate plane</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-negative-number-topic</p>
<p>Properties of Numbers whole numbers and integers; least common multiple, greatest common factor</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-factors-and-multiples</p>
<p>Variables and Expressions variables; substitution and evaluating expressions; writing algebraic expressions</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-expressions-and-variables</p>
<p>Equations and Inequalities algebraic equations; one-step equations with adding, subtracting, multiplication, and division; finding mistakes; dependent and independent variables</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-equations-and-inequalities</p>
<p>Equivalent Expressions combining like terms; distributive property; equivalent expressions</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-equivalent-exp</p>
<p>Geometry area of a parallelogram, triangle, shapes on grids, trapezoids, and composite figures; volume with fractions; surface area; drawing polygons on a coordinate plane; quadrilaterals on the coordinate plane</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-geometry-topic</p>
<p>Data and Statistics dot plots and frequency tables; statistical questions; histograms; mean, median, mode, range; box-and-whisker plots; interquartile range; mean absolute deviation; comparing data displays; shape of data distributions</p>	<p>https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-data-statistics</p>

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Ways to practice/get help:

Your old (or new) math book

Flashcards

Khan Academy - khanacademy.org

IXL - ixl.com

Just Math Tutorials - <http://patrickjmt.com>

CliffsNotes (for math) - <https://www.cliffsnotes.com/study-guides/basic-math/basic-math-and-pre-algebra>

Hooda Math Games - <http://www.hoodamath.com/games.html>

Arcade Academics (Arcademics) - <http://www.arcademics.com>

You are more than welcome to do your work on another piece of paper - if so please make sure to keep it with this math packet!

FOUNDATIONS

Compare Decimals through Thousandths

Compare using $<$, $>$, or $=$.

1 12.94 _____ 12.9

2 14.114 _____ 21.20

3 8.972 _____ 8.099

4 17.105 _____ 17.11

5 22.792 _____ 22.77

6 4.513 _____ 4.282

7 18.067 _____ 18.122

8 8.4 _____ 8.39

9 1.029 _____ 3.234

10 23.231 _____ 1

Multiply 2-Digit Numbers

1 65
 x 74

2 30
 x 42

3 42
 x 79

4 15
 x 81

5 89
 x 40

6 12
 x 13

7 83
 x 68

8 45
 x 76

Multi-Digit Multiplication

1 59 x 23 = _____

2 101 x 47 = _____

3 4,234 x 32 = _____

4 590 x 427 = _____

5 85 x 770 = _____

6 248 x 982 = _____

Multiply Decimals

1 0.6 x 0.1 = _____

2 0.8 x 7 = _____

3 0.43 x 0.8 = _____

4 0.9 x 0.2 = _____

5 3.4 x 6.1 = _____

6 0.75 x 0.5 = _____

Add and Subtract Mixed Numbers with Unlike Denominators

1 $1\frac{1}{8} + 5\frac{2}{3} = \underline{\hspace{2cm}}$

2 $8\frac{2}{3} - \frac{2}{7} = \underline{\hspace{2cm}}$

3 $3\frac{5}{9} - 1\frac{2}{6} = \underline{\hspace{2cm}}$

4 $1\frac{1}{15} + 3\frac{4}{5} = \underline{\hspace{2cm}}$

5 $9\frac{5}{10} + 5\frac{3}{4} = \underline{\hspace{2cm}}$

6 $5\frac{2}{3} - 2\frac{1}{4} = \underline{\hspace{2cm}}$

Multiplying Fractions

1 $\frac{4}{5} \times \frac{2}{6} = \underline{\hspace{2cm}}$

2 $\frac{3}{7} \times \frac{1}{2} = \underline{\hspace{2cm}}$

3 $\frac{3}{7} \times \frac{7}{3} = \underline{\hspace{2cm}}$

4 $\frac{6}{7} \times \frac{6}{7} = \underline{\hspace{2cm}}$

5 $\frac{1}{8} \times \frac{5}{6} = \underline{\hspace{2cm}}$

6 $\frac{3}{4} \times \frac{1}{10} = \underline{\hspace{2cm}}$

7 $\frac{5}{6} \times \frac{1}{4} = \underline{\hspace{2cm}}$

8 $\frac{2}{3} \times \frac{5}{8} = \underline{\hspace{2cm}}$

Dividing Unit Fractions by Whole Numbers

1 $\frac{1}{2} \div 5 = \underline{\hspace{2cm}}$

2 $\frac{1}{6} \div 3 = \underline{\hspace{2cm}}$

3 $\frac{1}{3} \div 4 = \underline{\hspace{2cm}}$

4 $\frac{1}{8} \div 2 = \underline{\hspace{2cm}}$

5 $\frac{1}{4} \div 2 = \underline{\hspace{2cm}}$

6 $\frac{1}{10} \div 7 = \underline{\hspace{2cm}}$

Dividing Whole Numbers by Unit Fractions

1 $5 \div \frac{1}{3} = \underline{\hspace{2cm}}$

2 $2 \div \frac{1}{9} = \underline{\hspace{2cm}}$

3 $15 \div \frac{1}{3} = \underline{\hspace{2cm}}$

4 $3 \div \frac{1}{3} = \underline{\hspace{2cm}}$

5 $4 \div \frac{1}{4} = \underline{\hspace{2cm}}$

6 $2 \div \frac{1}{5} = \underline{\hspace{2cm}}$

Evaluating Powers of Ten

1 $10^4 = \underline{\hspace{2cm}}$

2 $10^3 = \underline{\hspace{2cm}}$

3 $10^2 = \underline{\hspace{2cm}}$

4 $10^5 = \underline{\hspace{2cm}}$

RATIOS, RATES, AND PERCENTAGES

Rate Problems

1 If 4 batteries cost \$10.36, how much do 6 batteries cost?

2 If 13 chocolate bars cost \$21, how many do 30 cost?

3 If it snows 7 inches of snow in 2 hours, how much snow will be there in 8 hours?

4 If it takes 9 gallons to go 140 miles, how many gallons are needed to go just 80 miles?

Comparing Rates

- | | | | |
|---|--|---|--|
| 1 | 9 cans of green beans at Greers cost \$4.12. 7 of the same cans at Winn-Dixie cost \$3.89. Which is the better buy? What were the unit rates? | 2 | Sam ran the 5-kilometer race in 45 minutes. Alex ran the 2-kilometer race in 17 minutes. Which runner ran the faster race? What were the rates per hour? |
| 3 | 8 apples at Wal-Mart cost \$1.45. The same kind of apples are \$1.22 for 6 at the gas station. Which place is the better buy? What is the unit rate? | 4 | 7 calculators cost \$190 at Best Buy. 10 of the same calculators cost \$270 at Office Max. Which is the better buy? What were the unit rates? |

Converting Percents and Fractions

Change from a percent to a fraction (in simplest form) or a fraction to a percent.

- | | | | |
|---|--|---|--|
| 1 | $\frac{24}{25} = \underline{\hspace{2cm}}$ | 2 | 27% = $\underline{\hspace{2cm}}$ |
| 3 | 46% = $\underline{\hspace{2cm}}$ | 4 | $\frac{6}{20} = \underline{\hspace{2cm}}$ |
| 5 | $\frac{16}{10} = \underline{\hspace{2cm}}$ | 6 | 180% = $\underline{\hspace{2cm}}$ |
| 7 | 50% = $\underline{\hspace{2cm}}$ | 8 | $\frac{18}{25} = \underline{\hspace{2cm}}$ |

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Converting Decimals and Percents

Change from a decimal to a percent or a percent to a decimal.

1 $0.2 = \underline{\hspace{2cm}}$

2 $27\% = \underline{\hspace{2cm}}$

3 $46\% = \underline{\hspace{2cm}}$

4 $0.290 = \underline{\hspace{2cm}}$

5 $3.2 = \underline{\hspace{2cm}}$

6 $180\% = \underline{\hspace{2cm}}$

7 $50\% = \underline{\hspace{2cm}}$

8 $0.08 = \underline{\hspace{2cm}}$

Finding Percents

1 $6\% \text{ of } 24 = \underline{\hspace{2cm}}$

2 $10\% \text{ of } 48.46 = \underline{\hspace{2cm}}$

3 $14\% \text{ of } 21 = \underline{\hspace{2cm}}$

4 $5\% \text{ of } 35 = \underline{\hspace{2cm}}$

5 $2\% \text{ of } 200 = \underline{\hspace{2cm}}$

6 $100\% \text{ of } 244 = \underline{\hspace{2cm}}$

Arithmetic Operations

Add Decimals

1 $1.08 + 1.67 = \underline{\hspace{2cm}}$

2 $0.195 + 1.6 = \underline{\hspace{2cm}}$

3 $0.46 + 0.247 = \underline{\hspace{2cm}}$

4 $4.40 + 0.93 = \underline{\hspace{2cm}}$

5 $0.329 + 1.42 = \underline{\hspace{2cm}}$

6 $3.2 + 3.02 = \underline{\hspace{2cm}} -$

Subtract Decimals

1 $2.7 - 0.1 = \underline{\hspace{2cm}}$

2 $6.5 - 0.3 = \underline{\hspace{2cm}}$

3 $0.46 - 0.25 = \underline{\hspace{2cm}}$

4 $4 - 0.93 = \underline{\hspace{2cm}}$

5 $98.8 - 67.2 = \underline{\hspace{2cm}}$

6 $3.2 - 3.02 = \underline{\hspace{2cm}}$

Divide by 1-Digit Numbers

1 $6 \overline{) 2514}$

2 $6 \overline{) 516}$

3 $4 \overline{) 244}$

4 $8 \overline{) 4288}$

5 $5 \overline{) 980}$

6 $8 \overline{) 304}$

7 $2 \overline{) 1548}$

8 $7 \overline{) 6475}$

Multi-Digit Division

1 $128 \div 16 = \underline{\hspace{2cm}}$

2 $9,815 \div 65 = \underline{\hspace{2cm}}$

3 $105 \div 21 = \underline{\hspace{2cm}}$

4 $2,250 \div 25 = \underline{\hspace{2cm}}$

5 $34 \div 17 = \underline{\hspace{2cm}}$

6 $108 \div 12 = \underline{\hspace{2cm}}$

Dividing Decimals

Please express your answer as a decimal.

1 $3 \div 5 = \underline{\hspace{2cm}}$

2 $15 \div 2 = \underline{\hspace{2cm}}$

3 $51 \div 6 = \underline{\hspace{2cm}}$

4 $2.3 \div 5 = \underline{\hspace{2cm}}$

5 $0.48 \div 8 = \underline{\hspace{2cm}}$

6 $0.8 \div 0.2 = \underline{\hspace{2cm}}$

7 $0.47 \div 0.1 = \underline{\hspace{2cm}}$

8 $4.5 \div 0.5 = \underline{\hspace{2cm}}$

9 $6 \div 0.2 = \underline{\hspace{2cm}}$

10 $7.5 \div 0.15 = \underline{\hspace{2cm}}$

Multiply Mixed Numbers

1 $3\frac{2}{3} \times 1\frac{1}{4} = \underline{\hspace{2cm}}$

2 $\frac{3}{5} \times 2\frac{1}{2} = \underline{\hspace{2cm}}$

3 $5\frac{4}{7} \times 2\frac{3}{5} = \underline{\hspace{2cm}}$

4 $9\frac{1}{6} \times 4\frac{3}{4} = \underline{\hspace{2cm}}$

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5 $10\frac{2}{5} \times \frac{1}{3} =$ _____

6 $\frac{2}{7} \times 3\frac{5}{6} =$ _____

Dividing Fractions

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

2 $\frac{1}{2} \div \frac{5}{6} =$ _____

3 $\frac{4}{5} \div \frac{4}{5} =$ _____

4 $\frac{5}{7} \div \frac{8}{9} =$ _____

5 $\frac{7}{3} \div \frac{6}{10} =$ _____

6 $\frac{2}{3} \div \frac{3}{4} =$ _____

Exponents

1 $4^2 =$ _____

2 $2^5 =$ _____

3 $6^3 =$ _____

4 $9^2 =$ _____

Order of Operations

1 $10 + (2 + 5)^2 + 6 =$

2 $4 - 2 + 4 \times 8 - 1 =$ _____

3 $2^2 - 0(3 + 32) =$

4 $(6^2 + (18 \div 9 + 5^2)) - 3 =$ _____

PROPERTIES OF NUMBERS

Least Common Multiple

Find the least common multiple of each pair of numbers.

1 9, 15 _____

2 22, 6 _____

3 18, 3 _____

4 3, 4 _____

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5 9, 21 _____

6 4, 8 _____

Greatest Common Factor

Find the greatest common factor for each number pair.

1 20, 15 _____

2 6, 2 _____

3 4, 30 _____

4 15, 8 _____

5 2, 8 _____

6 8, 24 _____

$\begin{array}{r} 15 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ \div 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ \div 6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ \div 2 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -9 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ \div 3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \div 1 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ \div 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \div 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ \div 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ \div 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$
$\begin{array}{r} 6 \\ \div 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$