## Welcome to Algebra 1

I thank you for your continued dedication to your studies through this past rollercoaster of a trimester. I want you to take some time to mentally and physically relax and enjoy the great weather ahead. However throughout the summer, we have to keep our math skills sharp; so I have attached 6 weeks of work for you to complete.

Your summer math review has 2 parts:

- 6 weeks of pencil and paper review problems
- and 30mins a week of IXL.
- IXL skills to be practiced over the summer break are listed. You should also work on the recommendations listed on your dashboards from IXL.

All math summer work is due on September 4th.
I look forward to seeing you all in September and hearing all about your summer activities.

If you have any questions, please email me jclarke@saintroseschool.com

Have a great SUMMER!!

| 1. <br> Simplify the following: $\frac{3}{4}+5-\frac{1}{2}$ | 2. <br> Simplify the following: $\frac{2}{3}+2^{3}-\frac{1}{3}$ |
| :---: | :---: |
| 3. <br> Simplify by combining like terms: $-15+6 x-19-20 x$ | 4. <br> Simplify by combining like terms: $-7 x-2-9 y+10 x$ |
| 5. <br> Solve: $14+x=18$ | 6. <br> Solve: $-5 x=-15$ |
| 7. <br> MCC.8.EE. 7 <br> Solve: $-2 x+8=18$ | Solve: $3 x+18-8 x=-17$ |


| 1. <br> Write an expression for the verbal phrase: <br> Seven is less than $m$ | 2. <br> Simplify by using order of operations: $\frac{12}{3+3}+\frac{12+3}{5}$ |
| :---: | :---: |
| 3. <br> Solve: $-6+3 x+12=45$ | 4. MCC.7.EE. 4 <br> Solve: $\frac{x}{2}+5=6$ |
| 5. <br> Solve: $21=x+21$ | 6. <br> Solve: $-26=6 x$ |
| 7. <br> Solve: $-\frac{4}{5} x=12$ | 8. <br> Solve: $-8-\frac{5}{3} x=17$ |


| 1. | Write and solve an equation based off the verbal phrase. <br> 5 more than x is equal to 32 |  | Jon has to pay $\$ 9.00$ admission for the skating rink and $\$ 2$ per hour to rent rollerblades. How many hours can he skate for $\$ 19$ ? |
| :---: | :---: | :---: | :---: |
| 3. | MCC.8.EE.7b <br> Solve: $-6=\frac{5}{6} x$ |  | MCC.8.EE.7b <br> The perimeter is 22 . How much bigger is the longest side than the shortest side? |
| 5. | MCC.8.EE.7b <br> Solve: $\frac{3}{2} x-12=24$ | 6. | MCC.8.EE.7b <br> Solve: $9+2-10 x=1-10 x$ |
| 7. | MCC.8.EE.7b <br> Solve: $10 x-15=-8 x+21$ | 8. | MCC.8.EE.7b <br> Solve and plot your answer on the number line below: |


| 1. <br> Simplify $24-4.57+(-4.62)$ | 2. MCC.7.NS. 2 Divide: $\frac{-48.54}{-6}$ |
| :---: | :---: |
| 3. <br> Find the median (middle) of the data set below? $-\frac{16}{4}, \frac{19}{5},-3.5, \frac{1}{4}, 10$ | 4. <br> Solve the equation: $-68=5 y-3$ |
| 5. <br> Which property is demonstrated by the following statement? $16+(22+a)=16+(a+22)$ | 6. <br> A rectangle has a perimeter of $(20 x+12 y)$. If one side of the rectangle is $(3 x-4 y)$, write the expression for the other side. |
| 7 <br> Solve: $2 x+6-12 x=26$ | 8. MCC.7.EE.4A <br> Solve: $9 x-14=9 x+1$ |


| 1. <br> Solve: $4-3 x>-9$ | 2. <br> Graph the inequality on a number line: $x \leq 10$ |
| :---: | :---: |
| 3. <br> Write an inequality for $x$ that would give this rectangle an area of at least $93 \mathrm{ft}^{2}$. | 4. <br> A 12 pack of soda is roughly $\$ 2.50$. What is the cost per one can of soda? |
| 5. <br> MCC.7.RP.2, 2a, 2d <br> Which equation(s) represents a proportional relationship? <br> A) $y=1 / 2 x$ <br> B) $y=3 x^{2}$ <br> C) $y=9-x$ <br> D) $y=6+x$ | 6. <br> A wrestler competes in 40 matches. Of those matches, he wins 16. What percent of the matches did the wrestler win? |
| 7. <br> What is the slope below? | 8. <br> What is the slope between the points (4,-1) and ( $-4,3$ )? |


| 1. <br> MCC.7.EE. 2 <br> How many of the triangles of area 12 can fit in the rectangle below? | 2. <br> MCC.7.EE.4A <br> Solve: $\frac{k}{2}-2 k+1=7$ |
| :---: | :---: |
| 3. <br> A 3 ft by 5 ft mirror is placed in a wooden frame. What is the area of the frame? | 4. <br> Solve: $24<m-100$ |
| 5. <br> Write an inequality that represents the graph below: | 6. <br> Write an inequality to represent the phrase: The sum of a number and 6 is no less than 31. |
| 7. <br> For which statement is the unit rate equal to 6 ? <br> A) Jon walked 12 mi in 6 hrs <br> B) April gained 6 lbs in 6 weeks <br> C) There are 75 tennis balls in 25 canisters. <br> D) 120 people fit in 20 rows at a game | 8. <br> There are $45 \mathrm{M} \& \mathrm{Ms}$ in a standard size bag. At 360 calories per bag, how many calories is it per M\&M? |

## Algebra 1 Summer IXL checklist of skills

When you log into IXL, under the search for skill enter the numbers and letter combo in parentheses or the common core standard indicated in bold to find these skills.
$\square$ Search topics and skills

## 8.NS.A. 1

Convert between decimals and fractions or mixed numbers (8-D.4)
Identify rational and irrational numbers (8-D.5)

## 8.NS.A. 2

Estimate positive square roots ( $8-\mathrm{F}$ )
Estimate positive and negative square roots (8- F.17)
Estimate cube roots(8- F.22)

## 8.EE.A. 2

Square roots of perfect squares (8-G.15)
Relationships between squares and square roots (8-F.18)
Cube roots of positive perfect cubes (8-F.20)

## 8.EE.A. 3

Convert between standard and scientific notation (8-G.1)
Compare numbers written in scientific notation(8-G.2)
8.EE.B. 5 Graph proportional relationships interpreting the unit rate as the slope of the graph compare two different proportional graphs represented in different ways.
8.EE.B. 6 Use similar triangles to clean why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane use slope intercept form interpreting the y intercept.
8.EE.C.7b Solve two step equations (8-W.8)
8.F.A. 1

Identify functions (8-Z.1)
Does $X$ Y satisfy the linear function ( $8-2.2$ )
Complete a table for a linear function (8-Z.8)
Find values using function graphs (8-Z.20)
Complete a table for a function graph (8-Z.21)

## 8.G.A. 5

Find missing angles in a triangle
Find missing angles in a triangle using ratios
Identify alternate exterior and alternate interior angles
Transversal of parallel lines name angle pairs
Transversal of parallel lines find angle measures
8.G.B Understand and apply the Pythagorean theorem

