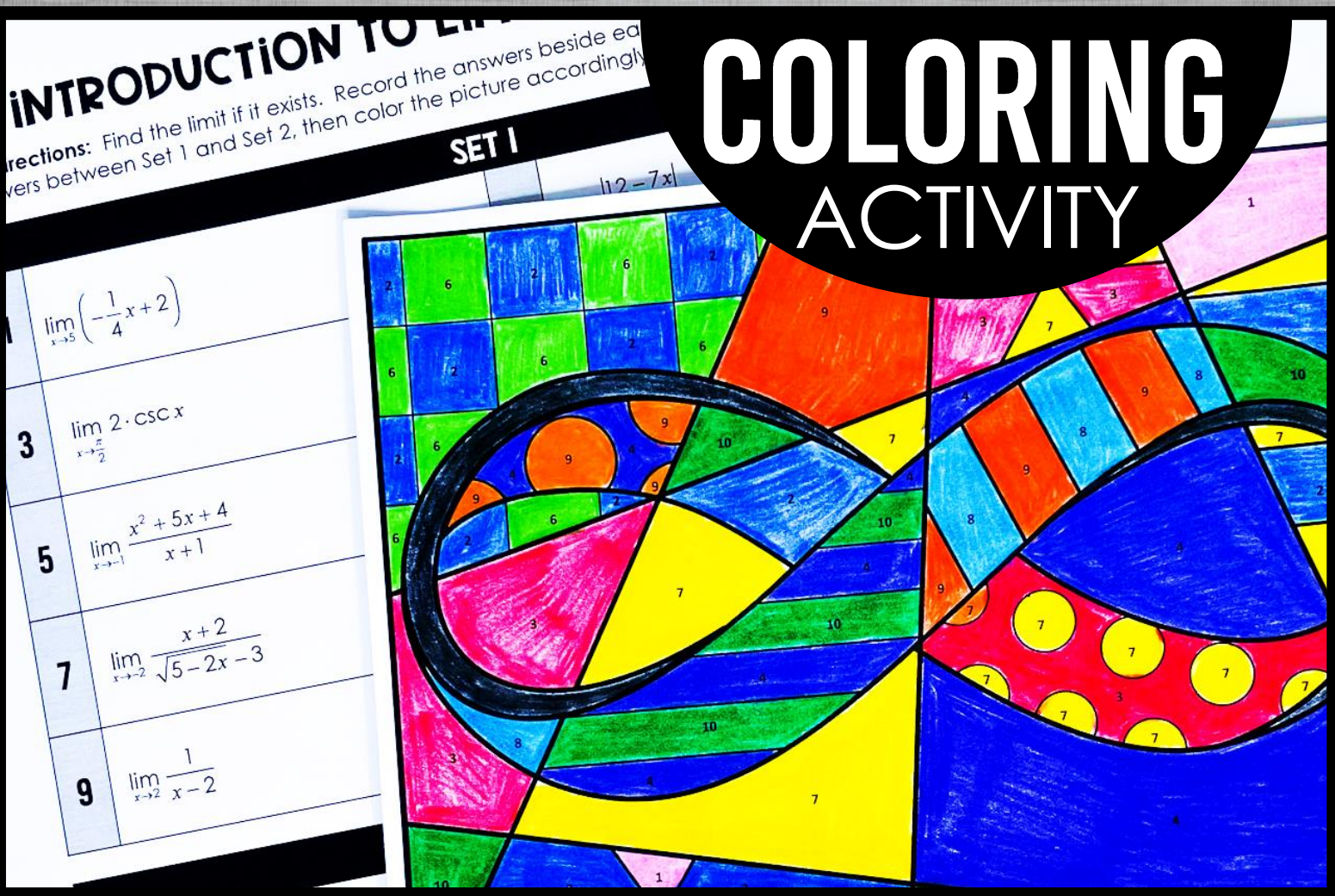


COLORING ACTIVITY

LIMITS

(finding algebraically)

Created by: ALL THINGS ALGEBRA®

INTRODUCTION TO LIMITS

Coloring Activity!

Objective: Students will practice finding limits algebraically using properties of limits, direct substitution, factoring, and rationalizing. Limits at infinity and limits of sequences also included. If using my Pre-Calculus Curriculum, this activity pairs very well with Unit 12 – Introduction to Calculus Days 4-6.

Directions:

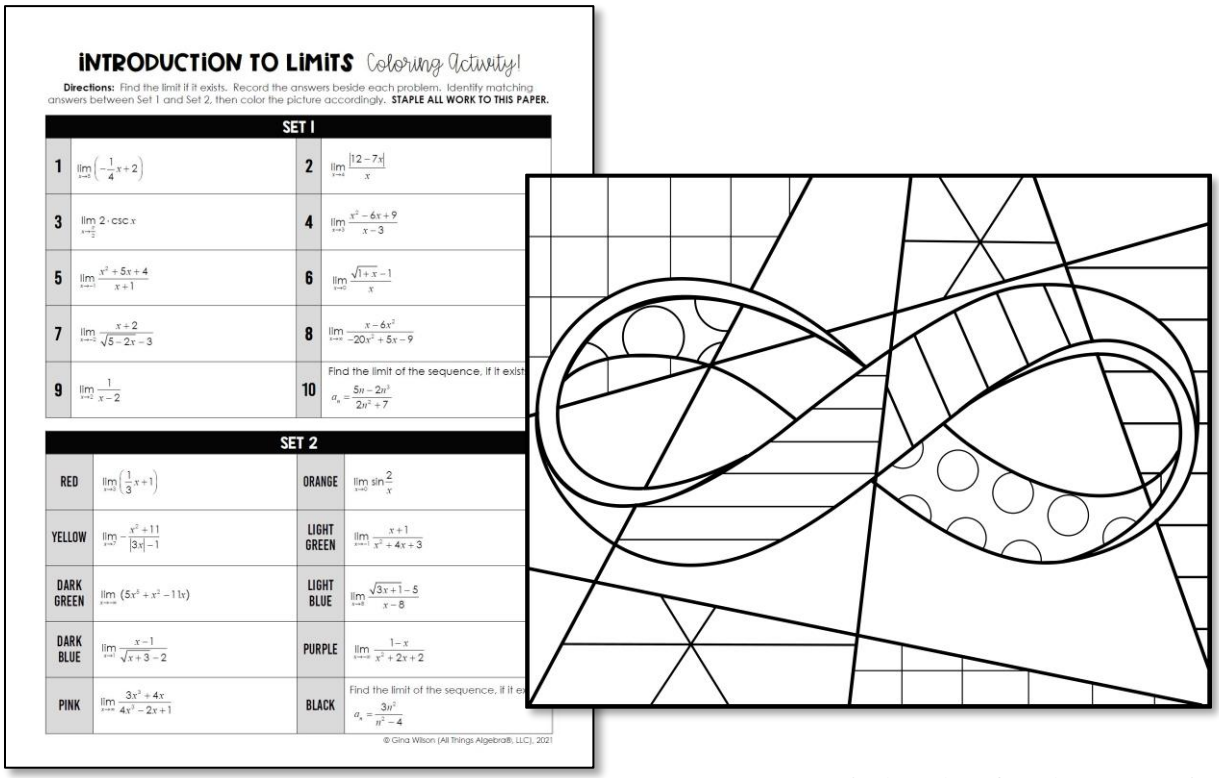
1) Copy the limits worksheet and infinity coloring picture for each student. I typically copy the coloring sheet on the back to save paper. I have my students show all work on a separate sheet of notebook paper.

2) If working in partners, Partner A does Set 1 and Partner B does Set 2. Each partner does the problems in their set. They check with each other for matching answers to determine how to color the infinity symbol. **I recommend using this resource as a partner activity!**

For example, if #1 is -2 and Light Blue is also -2, then all 1's on the picture are light blue If #2 is 1/3 and Purple is also 3/4, then all 2's on the picture are Purple. And so on.

This can also be done as an independent activity where each student does both sets (20 total problems).

3) After solving all the problems, students can color the picture. I have them staple their work to the paper and turn in for a classwork grade.



INTRODUCTION TO LIMITS Coloring Activity!

Directions: Find the limit if it exists. Record the answers beside each problem. Identify matching answers between Set 1 and Set 2, then color the picture accordingly. **STAPLE ALL WORK TO THIS PAPER.**

SET 1

1	$\lim_{x\to 8}\left(-\frac{1}{4}x+2\right)$	2	$\lim_{x\to 4}\frac{\lvert 12-7x\rvert}{x}$
3	$\lim_{x\to\frac{\pi}{2}} 2\cdot\csc x$	4	$\lim_{x\to 3}\frac{x^2-6x+9}{x-3}$
5	$\lim_{x\to -1}\frac{x^2+5x+4}{x+1}$	6	$\lim_{x\to 0}\frac{\sqrt{1+x}-1}{x}$
7	$\lim_{x\to -5}\frac{x+2}{\sqrt{5-2x}-3}$	8	$\lim_{x\to\infty}\frac{x-6x^2}{-20x^2+5x-9}$
9	$\lim_{x\to 2}\frac{1}{x-2}$	10	Find the limit of the sequence, if it exist $a_n=\frac{5n-2n^3}{2n^2+7}$

SET 2

RED	$\lim_{x\to 3}\left(\frac{1}{3}x+1\right)$	ORANGE	$\lim_{x\to 0}\sin\frac{2}{x}$
YELLOW	$\lim_{x\to -2}\frac{x^2+11}{\lvert 3x\rvert -1}$	LIGHT GREEN	$\lim_{x\to -1}\frac{x+1}{x^2+4x+3}$
DARK GREEN	$\lim_{x\to\infty}(5x^5+x^2-11x)$	LIGHT BLUE	$\lim_{x\to 8}\frac{\sqrt{3x+1}-5}{x-8}$
DARK BLUE	$\lim_{x\to 1}\frac{x-1}{\sqrt{x+3}-2}$	PURPLE	$\lim_{x\to -\infty}\frac{1-x}{x^2+2x+2}$
PINK	$\lim_{x\to\infty}\frac{3x^3+4x}{4x^3-2x+1}$	BLACK	Find the limit of the sequence, if it ex $a_n=\frac{3n^2}{n^2-4}$