

St. Louis School
2024 Summer Math
Entering 7th Grade
Algebra I

All students in middle school are required to complete summer math work. This year, to reinforce learning during the summer and promote growth, students will be using IXL online in addition to worksheets for math practice.

I. **IXL** – Each class has specifically assigned skills in IXL. IXL is an online program geared toward fluency practice. Students simply access the list of skills created by their teacher and click on a link to select an assigned skill. The link will take students to the skill where they login to begin. Students will use their St. Louis account to log on as they have done all school year. :[IXL Link](#)

Students should pace themselves by completing five concepts each month at a level of 80% proficiency (five by June 26, an additional five by July 28, and five more by August 23). Teachers will be monitoring students' progress throughout the summer. Failure to complete the suggested skills will result in a lower effort grade.

Please contact Mrs. Zulma Whiteford at zwhiteford@stlouisparish.org if you have any questions or concerns about IXL.

II. **Worksheets** – Scroll down to print the worksheets.

- **Show all work either on the worksheet or on looseleaf** in order to receive credit. Answers alone without supporting work will not receive credit.
- The looseleaf **MUST** include the student's name and be attached to the packet.
- Make sure to number the problems clearly. Work should be neat and organized.
- Class notes may be used for reference.

Complete some problems each week. Do not wait until the end of summer to complete the packet. This will allow you to maintain and improve your skills and help you to be successful next year.

All work should be **completed and turned in during the first week of school**. This packet will count as a **15-point assignment with five points awarded per trimester**.

**2024 Summer Work
Entering 7th Grade
Algebra I**

Name _____ Date _____

Solve the equations:

1) $\frac{3}{4}x = 18$	2) $4\frac{1}{6} = 3\frac{1}{3}c$	3) $-19 = -3x + 2$
4) $3.15 = .45n$	5) $6 = \frac{1}{12}v$	6) $-\frac{1}{2}x - 7 = -11$
7) $3x + 2 = 20$	8) $\frac{n}{3} - 2 = -18$	9) $3x - 7 = 8x + 23$

Mrs. Spera went to the pumpkin patch to buy pumpkins for pumpkin pie. It cost \$5 for entry into the patch. The farmer sold the pumpkins for 75¢ a pound. When she got to the register, her total cost (does not include any tax) was \$12.50. Write an equation for this problem AND solve to tell how many pounds of pumpkins she bought. Yum!

10) $-6x + 13 = 2x - 11$	11) $3(6 - 4n) = -2(6n - 9)$
12) $8(c - 9) = 6(2c - 12) - 4c$	13) $\frac{1}{2}x + 2(\frac{3}{4}x - 1) = \frac{1}{4}x + 6$
14) $-10y + 18 = -3(5y - 7) + 5y$	15) $\frac{1}{3}h - 4(\frac{2}{3}h - 3) = \frac{2}{3}h - 6$

Scientific Notation:

1) $(3.4 \times 10^{-5}) + (6.2 \times 10^{-5}) =$

2) $(5.7 \times 10^4) + (8.1 \times 10^7) =$

3) $(4.23 \times 10^5) - (3.5 \times 10^3) =$

4) $(4.61 \times 10^4) - (2.75 \times 10^4) =$

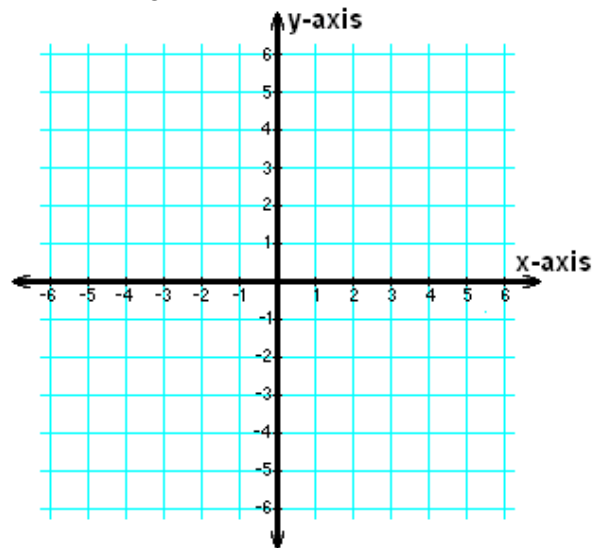
Slope:

1.) Find the slope of the line that passes through the coordinates.
A(4, 5) and B(-3, 5)

2.) Find the slope of the line that passes through the coordinates.
A(3, -6) and B(3, -9)

3.) Find the slope of the line that passes through the coordinates.
A(4, 2) and B(5, 3)

4) Graph the slope of number 3 on the coordinate grid.



5) State the slope and the y-intercept.

$$y = 4x - 9$$

Slope:

y-intercept:

6) State the slope and the y-intercept.

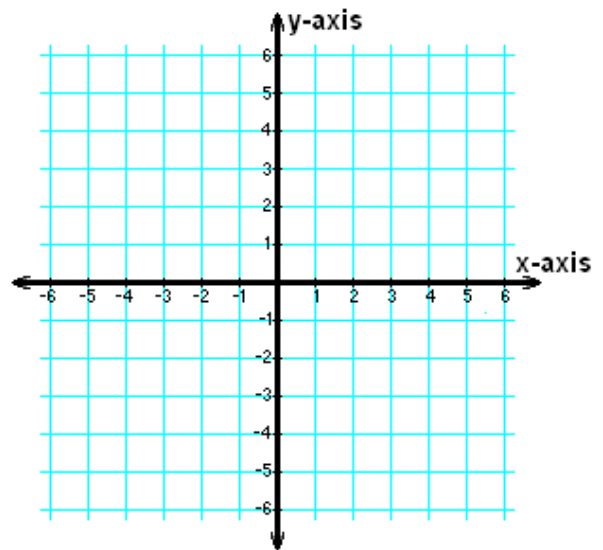
$$x + y = -2$$

Slope:

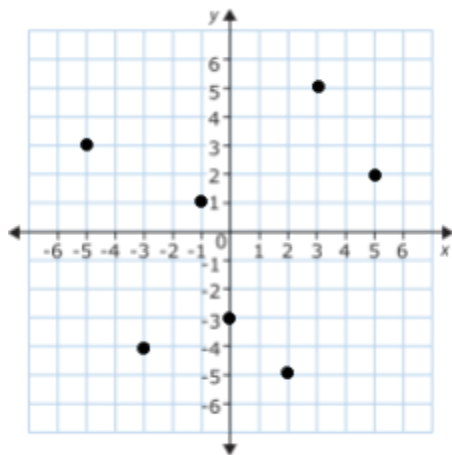
Y-intercept:

Graph the equation:

$$y = 2x + 1$$



Review



Is it a function?

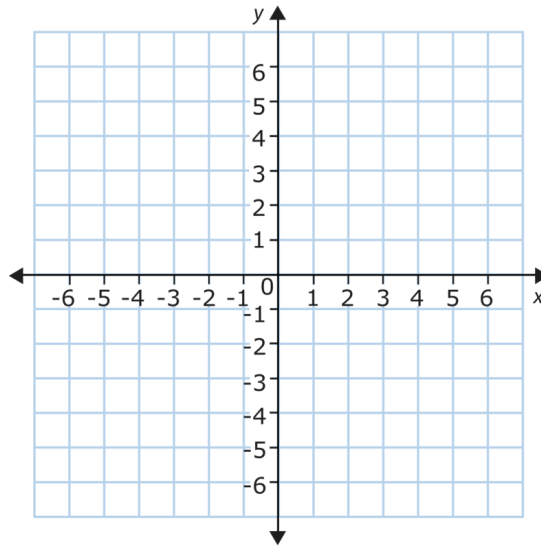
Domain:

Range:

Fill in the table, then graph the function.

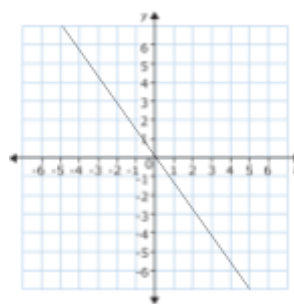
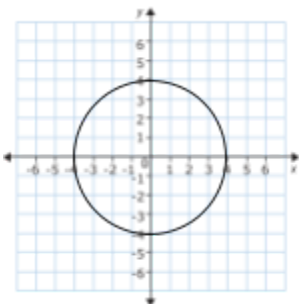
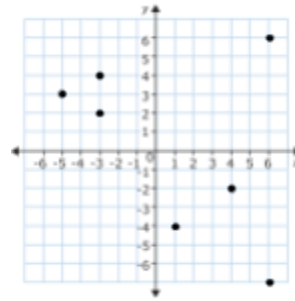
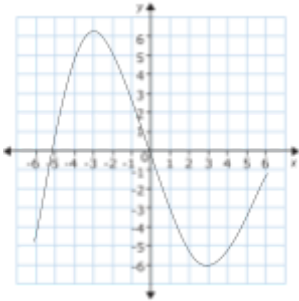
$$y=4x+1$$

x	y
-1	
0	
1	



Functions

1. Part A: Circle the graphs that show functions.



Part B: How do you know if a graph shows a function or not?

Vocabulary: Use the word bank to complete.

Minimum	Domain	Function	Maximum	Output
Input	$f(x)$	Slope	Relation	Range

_____ : A set of ordered pairs that relates an input to an output

_____ : x terms or the first number in an ordered pair

_____ : y terms or the second number in an ordered pair

_____ : a relation that for each input there is exactly one output

_____ : part of the function that is a set of all input values

_____ : part of the function that is the set of all output values

_____ : smallest y value of a function

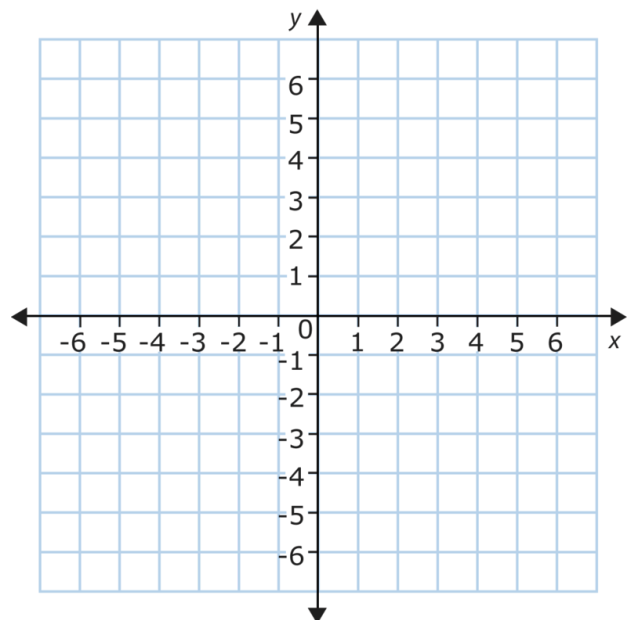
_____ : largest y value of a function

_____ : the function of x

_____ : the rate of change

$$f(x) = x^2 - 1$$

Input	Function	Output



Find the rate of change.

X	y
5	18
9	38

A flower was 2 inches tall when it was planted. After 10 days, it was 17 inches tall. What is the rate of change?

Find each square root.

$\pm\sqrt{81}$

$-\sqrt{64}$

$\sqrt{144}$

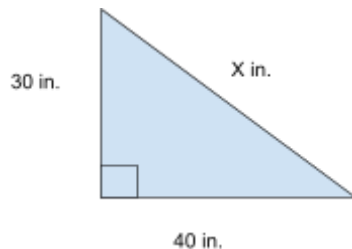
$\sqrt{-16}$

$\sqrt{100}$

Pythagorean Theorem

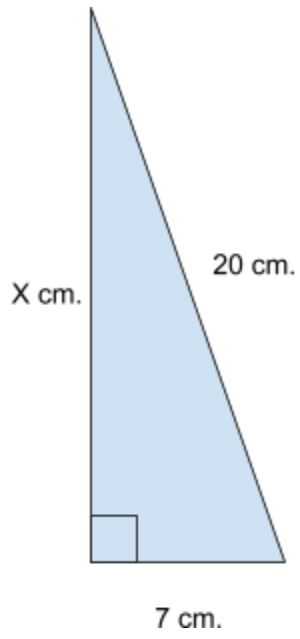
Find the missing side of each right triangle using the Pythagorean Theorem formula. Show your work set up before using a calculator.

Triangle 1

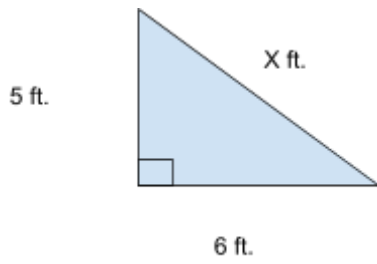


Show work here.

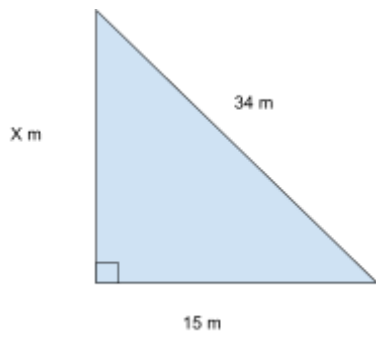
Triangle 2



Triangle 3



Triangle 4



Write and solve a system of equations for each situation. Use any method to solve the systems.

A. Your school sold 456 tickets for the high school play. An adult ticket costs \$3.50 and a student costs \$1.00. The total ticket sales was \$1131. How many adult tickets and how many student tickets did they sell? Set up a system to solve.

B. A landscaping company placed two orders with a nursery. The first order was for 13 bushes and 4 trees, and totaled \$487. The second order was for 6 bushes and 2 trees, and totaled \$232. The bill does not list the per-item price. What is the cost of one bush and of one tree?

C. The treasurer of the student body at a college reported that the receipts from a recent concert totaled \$916. Furthermore, he announced that 560 people had attended the concert. Students were charged \$1.25 each for admission to the concert, and adults were charged \$2.25 each. How many adults attended the concert?