

Name: _____

Richard Montgomery High School Department of Mathematics

Summer Math Packet

for students entering

Algebra 2 C/D

**Designed for students who have finished the one year course Algebra 2 2-year A/B
(For students taking full year Algebra 2 or AAF, please see RM Website)**

This packet must be completed and ready to turn in to your new math teacher on the first day of school. It will be graded and you may be tested on the material in this packet within the first two weeks of school.

You may work with a classmate or a peer. You may use textbooks, old packets, or other sources to help you complete the packet; however, each student must submit their own packet, and each student is responsible for understanding the material contained in the packet. Calculators are not necessary for any of the problems in this packet but may be used. Write your work on this packet. Make sure to show appropriate work for each question. If you need another sheet, you may attach it. This assignment is a review of skills you should have already learned. Knowing these skills will help you be successful in your Algebra 2 C/D class!

It is suggested that you wait several weeks after the end of school or even until August to complete this packet so that the material can be a true review!

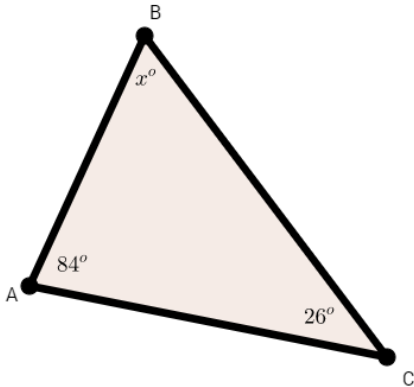
1. Solve the following equations. Show your work!

Hint: You may need to factor or use the quadratic formula. Some of your answers may be imaginary.

a. $32x - 1 = 42x - 51$	b. $3(2x + 3) = 5x - 7$
c. $2(x + 2) - 4(x + 3) = 6$	d. $x^2 = 36$
e. $2x^2 - 6 = 100$	f. $x^2 - 5x - 24 = 0$
g. $2x^2 - x + 10 = 0$	h. $5x^2 = -125$
i. $\sqrt{x - 5} = 10$	j. $3\sqrt{2x - 1} + 4 = 19$
k. $\frac{3x}{5} = \frac{2x+1}{2}$	l. $\frac{x}{2} + \frac{3x-1}{4} = \frac{1}{6}$

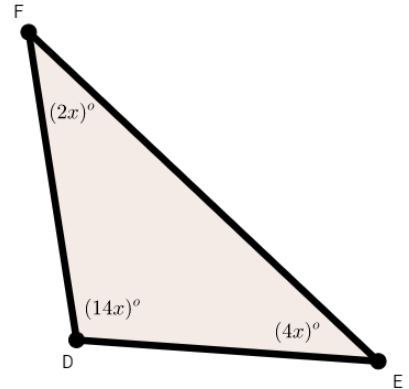
2. Find the indicated measures in the following triangles. Hint: The sum of the angles of a triangle = 180°

a.



$x =$ _____

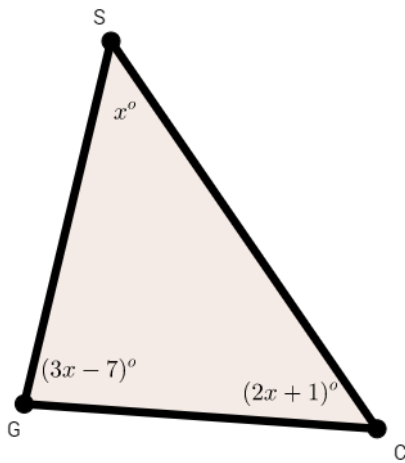
b.



$x =$ _____

$m\angle DFE =$ _____

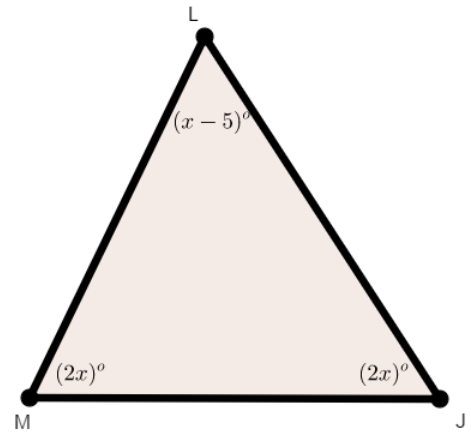
c.



$x =$ _____

$m\angle SCG =$ _____

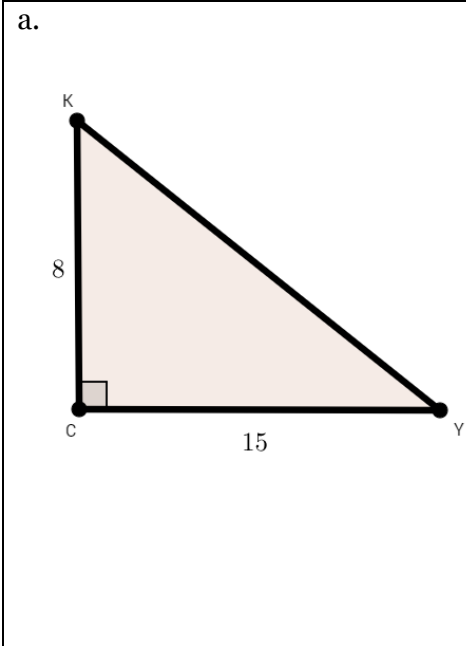
d.



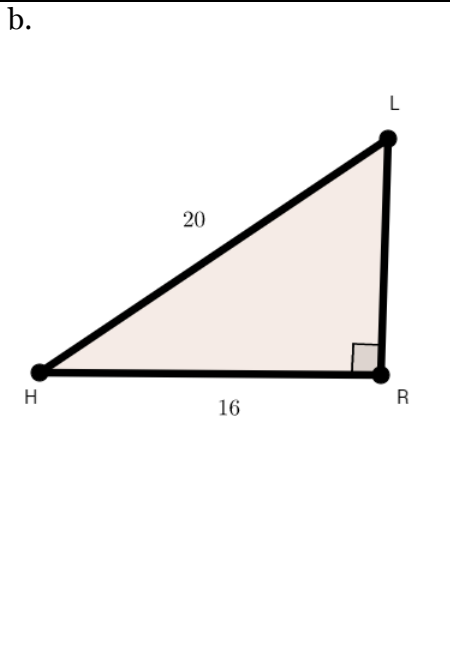
$x =$ _____

$m\angle MLJ =$ _____

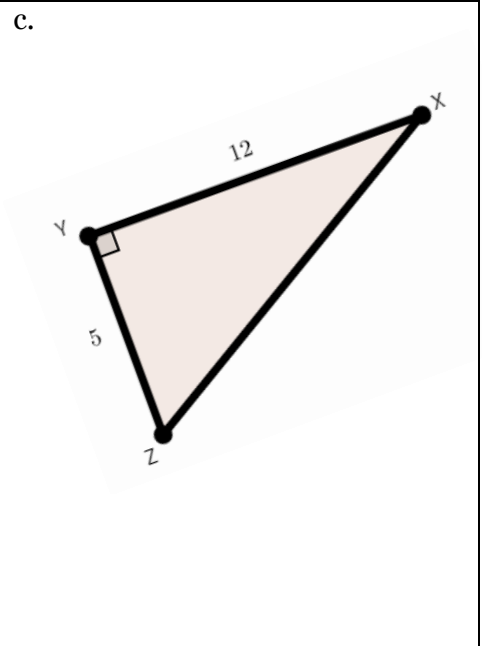
3. Use the Pythagorean Theorem ($a^2 + b^2 = c^2$) to find the missing side of the right triangles.



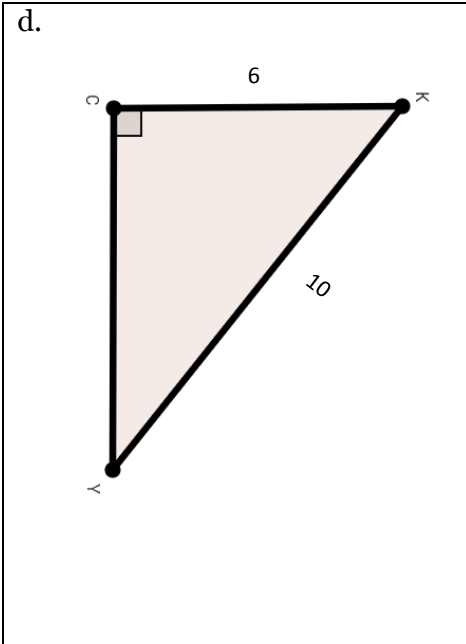
KY = _____



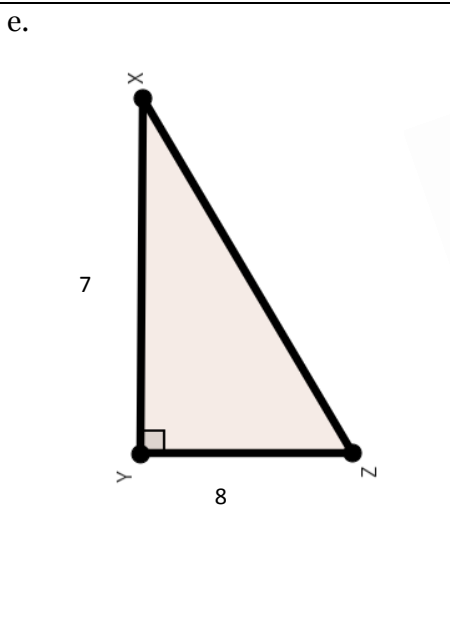
LR = _____



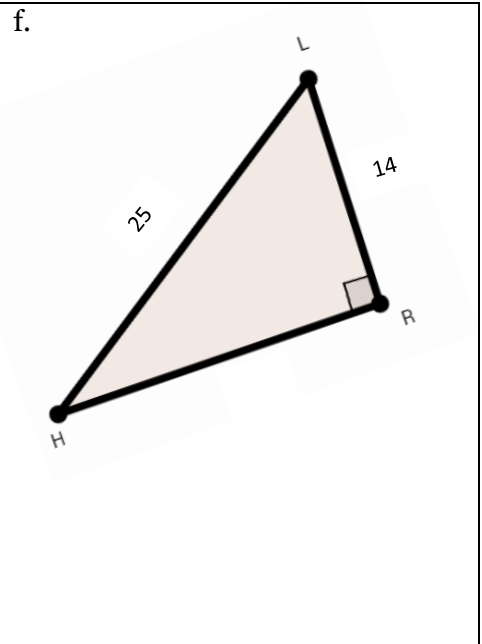
XZ = _____



CY = _____



XZ = _____

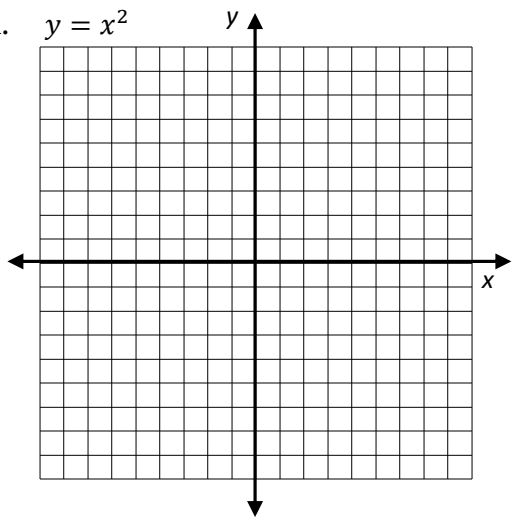


HR = _____

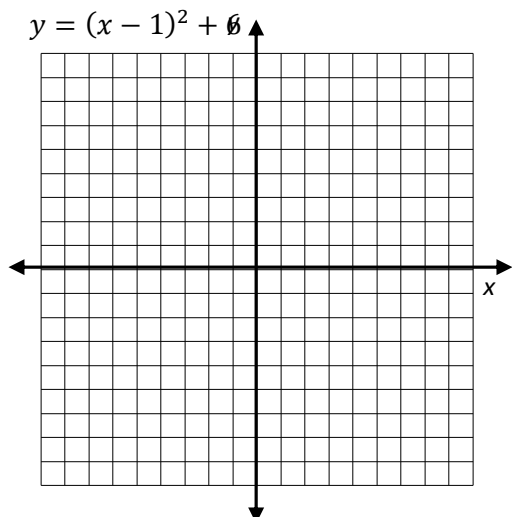
4. Accurately graph each of the following functions. You may use a table of values to help find points.

a. Quadratic

i. $y = x^2$

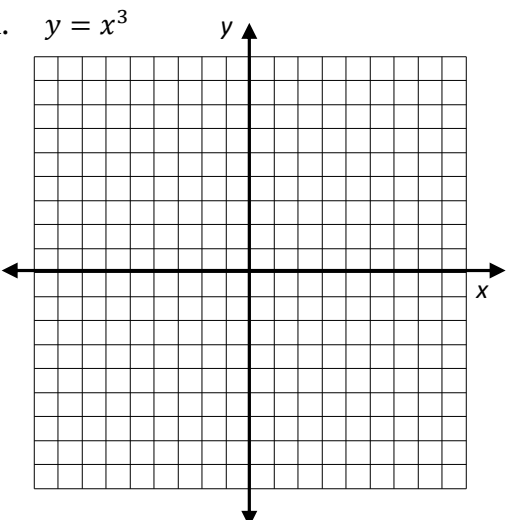


ii. $y = (x - 1)^2 + 6$

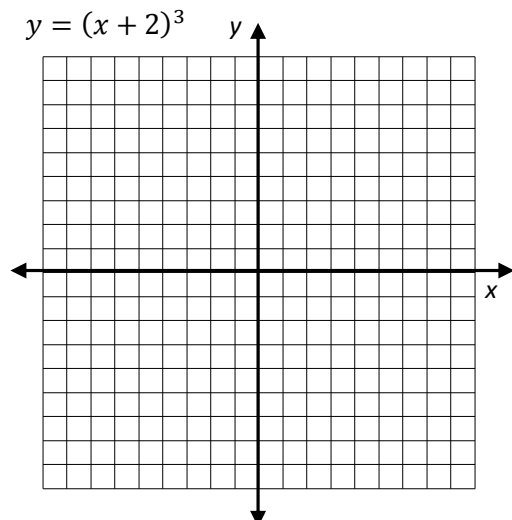


b. Cubic

i. $y = x^3$

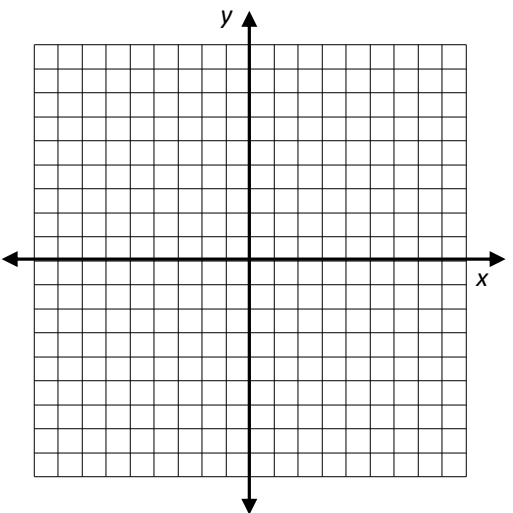


ii. $y = (x + 2)^3$

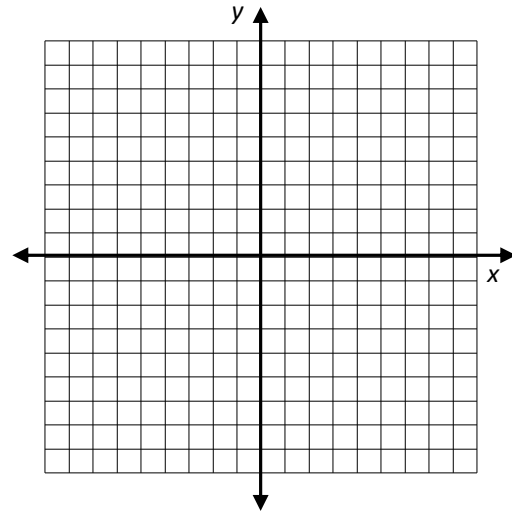


c. Square Root

i. $y = \sqrt{x}$

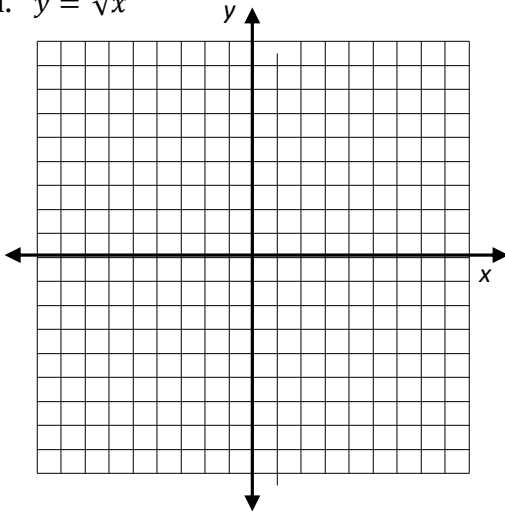


ii. $y = \sqrt{x - 1} + 2$

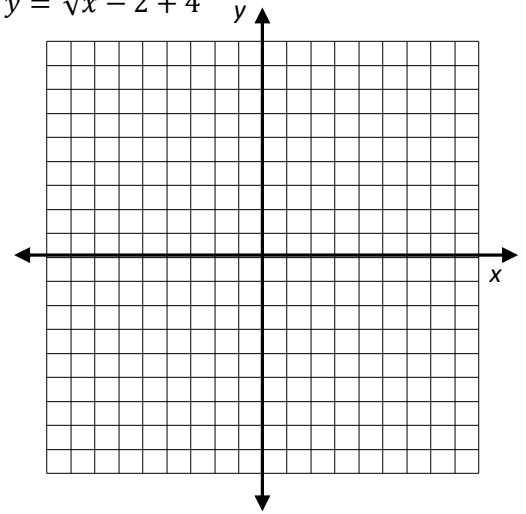


d. Cube Roots

i. $y = \sqrt[3]{x}$

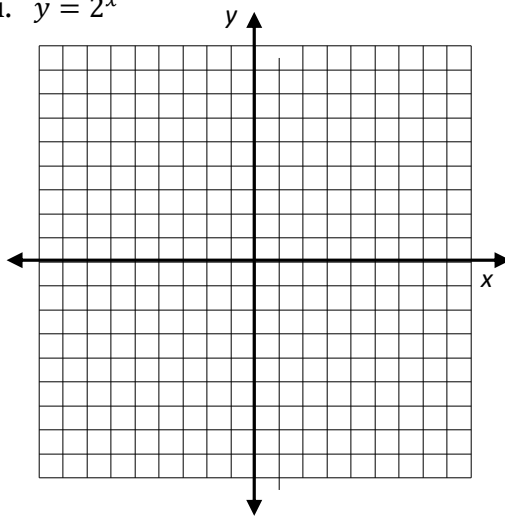


ii. $y = \sqrt[3]{x-2} + 4$

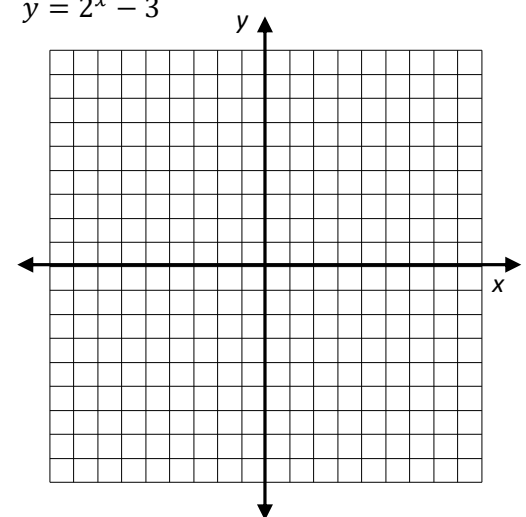


d. Exponential

i. $y = 2^x$

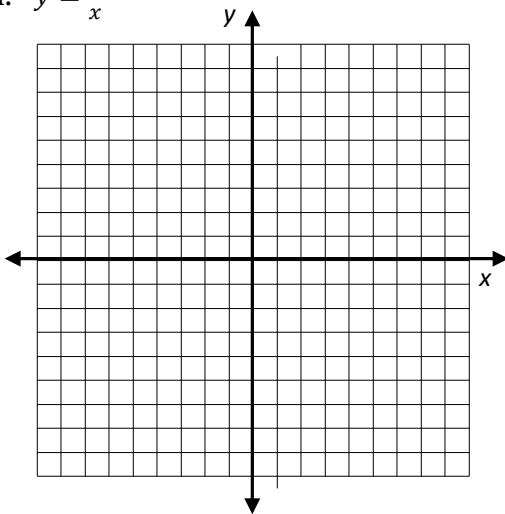


ii. $y = 2^x - 3$



e. Rational

i. $y = \frac{1}{x}$



ii. $y = 2 + \frac{1}{x-4}$

