



MATH LAB: THE CATAPULT!

A. Choose four action verbs that describe the action of your catapult!

retaliate	process	utilize	wander	suspend
repel	stiffen	usher	synthesize	summarize
project	scamper	trounce	systematize	summon
strap	scavenge	yield	tackle	parade
shield	snare	withdraw	target	parry

B. Marketing: Word Power! Choose a value for each action verb. You have value points emphasize strong word choice! No two action verbs can have the same value!

Verb	Synonym	Color	Value	Fraction

C. Represent your data in a fraction block. Use the color you chose to represent that particular word!

D. Data Breakdown! Find the statistics!

Mean	Mode	Range	Median	Outlier

E. Data Breakdown! Equivalent Fractions / Decimals / Percents

Word	Fraction	Factors	Simplified Fraction	Decimal	Percent

Total					

BUSINESS PLAN:

CREATE A PERSUASIVE ADVERTISEMENT FOR YOUR PRODUCT. USE THE FOUR DIFFERENT KINDS OF SENTENCES (DECLARATIVE, EXCLAMATORY, IMPERATIVE, INTERROGATIVE), INCLUDE FIGURATIVE LANGUAGE, 5 POWERFUL ADVERBS, AND 5 ADJECTIVES! INCLUDE A MECHANICAL DRAWING!

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USE PI TO DESIGN YOUR TARGET!

Circle Properties Key				SCALE
Property	Color	Property	Color	Your circle may have a diameter of 20 inches, Scale <i>1cm = 2 inches</i>
diameter =		chord		
radius =		tangent		
area		circumference		Set up your ratio and Proportion below:
Find area <small>(pi x radius squared)</small>		Find circumference <small>(pi x diameter)</small>		$\frac{1 \text{ cm}}{2 \text{ in}} =$ $\frac{\quad}{\quad} =$

MAKE SURE TO FILL IN YOUR DIAMETER, RADIUS, AREA, AND CIRCUMFERENCE MEASUREMENTS IN THE TABLE ABOVE!

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Build a base for your catapult! Scale: 9 ft = 1cm

Actual Dimensions: Length 108 feet Width = 45 ft Height = 72 ft

Set up the ratios. Then, solve the proportion!

Length	Width	Height
_____ cm = _____ cm	_____ cm = _____ cm	_____ cm = _____ cm
ft = ft	ft = ft	ft = ft

SCALE DRAWING: Construct the rectangular target. Shade 5 centimeters squared!

Fraction	Reduced Fraction
Fraction = _____	_____ () = _____ _____ () = _____

Perimeter = total length in cm	Area= width X length in cm^2	Volume= width X length X height in cm^3
Work and Label	Work and Label	Work and Label

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<p>Analyze! I've Got Problems?!</p> <p><i>Josie sold 20 catapults to circuses. Luckily, she constructed 3 times the amount that she sold to circuses. Josie also sold $\frac{1}{6}$ of a dozen of catapults to the military. Josie, then generously, donated $\frac{1}{2}$ of the remaining catapults to a charity! How many catapults did she give to charity?</i></p> <p><i>Where did the most of the catapults go? Why do you think they went there?</i></p>	<p>Catapult Problems!</p>
<p>I've Got Problems?!</p> <p><i>A state of the art catapult was successfully able to hit 100 bull's eyes during the test phase. The Brewers were the celebrity testers! Ryan Braun hit $\frac{2}{5}$ of the bull's eyes. Corey Hart added $\frac{1}{10}$ while both Ricky Weeks and Amaris Ramirez hit $\frac{1}{20}$ of them. Carlos hit the rest of them. How many did Carlos hit? Figure out the statistics for Brewer catapulters!</i></p> <p>Median:</p> <p>Mode:</p>	<p>Catapult's Statistics!</p> <p>Mean:</p> <p>Range:</p> <p>What can we learn about the data? Draw three conclusions!</p>

NAME:

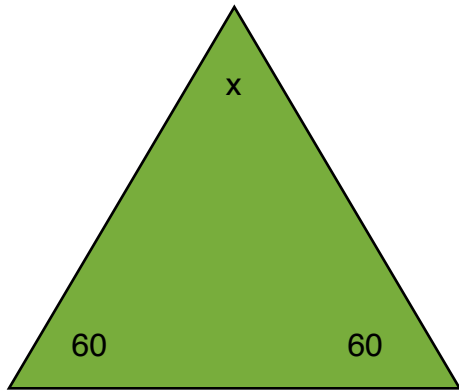
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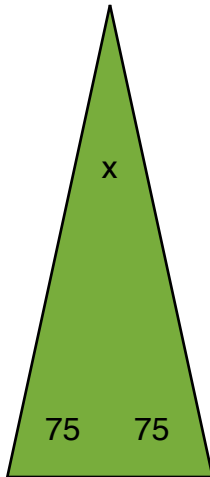
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Analyze the catapult projects! Examine the triangles and equations that represent the path of a project material. Figure out the missing angles and slopes! Draw conclusions based on your calculations!



Write an equation for the missing angle?

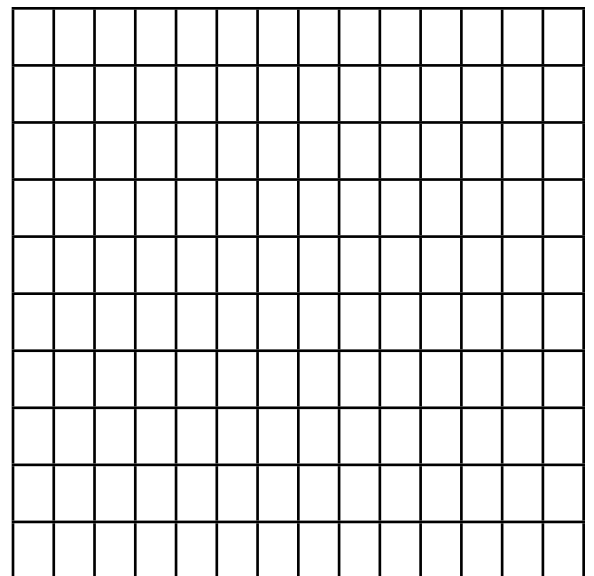
Conclusions:



Write an equation for the missing angle?

Conclusions:

FIND THE SLOPE: Graphing Linear Equations!! $Y = Mx + B$	
Solve in slope y intercept form: $4 + y = \frac{2}{3}x + 5$	
y intercept =	
Slope=	Rise =
	Run=
Points on the line: (x,y)	(__, __), (__, __), (__, __)
Graph the Line: ANALYZE THE SLOPE:	



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TEST YOUR CATAPULT! COLLECT AND ANALYZE DATA!

Draw a data table!	Draw a bar graph
Dimensions = _____ by _____	Dimensions = _____ by _____

Draw a line graph!	Draw a scatter plot
Dimensions = _____ by _____	Dimensions = _____

Analyze Data		Scientific Inquiry
<i>Mean</i>		<i>Make a conclusion!</i>
<i>Range</i>		
<i>Median</i>		
<i>Mode</i>		

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