

## 7<sup>th</sup> Grade Mathematics Distance Learning Packet – Phase 3

Teacher's Name: \_\_\_\_\_ Teacher's Email: \_\_\_\_\_ School: \_\_\_\_\_

Virtual Office Hours: 9:00 a.m.-11:00 a.m. & 1:00 p.m.-3:00 p.m. Student's Name: \_\_\_\_\_ Dates: May 4 – May 22, 2020

**Week 6: May 4 – May 8**

**Week 7: May 11 – May 15**

**Week 8: May 18 – May 22**

### 7<sup>th</sup> Grade Standards: Geometry

#### **7.GM.4**

Demonstrate an understanding of the proportional relationships between diameter, radius, and circumference of a circle.

Investigate the concept of circles and use the formulas for circumference and area of circles.

Recognize 3.14 as acceptable approximation of pi.

#### **7.GM.6**

Use formulas for area, volume and surface area appropriately.

Understand that the concept of area is applied to two-dimensional figures such as triangles and quadrilaterals.

Understand that the concepts of volume and surface area are applied to three-dimensional figures such as cubes, rectangular prisms, and triangular prisms.

### **Phase 3 Learning Tasks: Geometry Choice Board Activities**

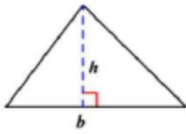
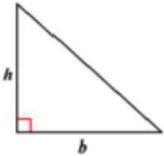
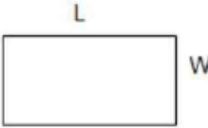
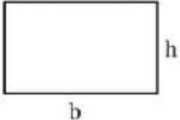
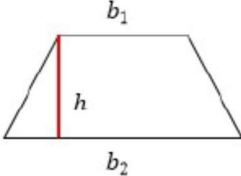
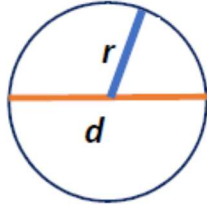
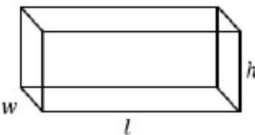
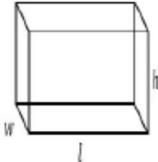
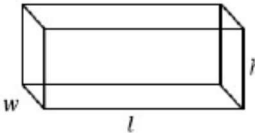
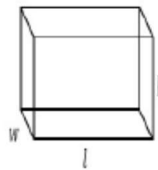
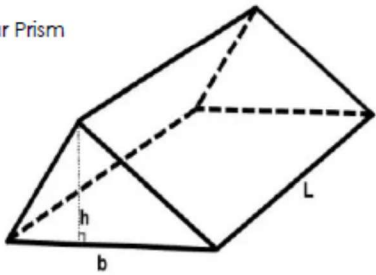
- Students should select and complete multiple learning tasks from activities A – L located on the two Geometry Choice Boards.
- Selected activities should equal **21 or more total points** for this 3-week distance learning packet.
- Students may take a picture of the completed activities to submit work in Schoology, OR e-mail completed activities to the teacher, OR students may turn in activities with the phase three distance learning packet on the date that is specified by the school.

### **Optional Extension Activities: Schoology and Edmentum**

Schoology Videos - students may access optional geometry tutorial videos and resources in their Schoology math course

Edmentum Learning Path - continue to work on individualized Edmentum Math Learning Path assignments for 25 minutes each week

# 7<sup>th</sup> Grade Geometry Formulas Reference Sheet

<b>Area Triangle</b> (units <sup>2</sup> )	$A = \frac{1}{2}bh$ or $A = \frac{bh}{2}$		 	
<b>Area Square or Rectangle</b> (units <sup>2</sup> )	$A = lw$ or $A = bh$		 	
<b>Area Trapezoid</b> (units <sup>2</sup> )	$A = \frac{1}{2}h(b_1 + b_2)$			
<b>Circles</b>	<b>Circumference</b> (units) $C = \pi d$ $\pi = 3.14$ $d = \text{diameter}$	<b>Area</b> (units <sup>2</sup> ) $A = \pi r^2$ $\pi = 3.14$ $r = \text{radius}$		
<b>Surface Area</b> (units <sup>2</sup> )	<b>Right Rectangular Prism</b> $SA = 2lw + 2lh + 2wh$  <b>Cube</b> $A = 6 \times (\text{side}^2)$ or $A = 6lw$		<b>Right Rectangular Prism</b> 	<b>Cube</b> 
<b>Volume</b> (units <sup>3</sup> )	$V = lwh$		<b>Right Rectangular Prism</b> 	<b>Cube</b> 
<b>Volume</b> (units <sup>3</sup> )	$V = \left(\frac{1}{2}bh\right)L$		<b>Right Triangular Prism</b> 	

# GEOMETRY 7<sup>th</sup> Grade Math: Choice Board 1

- Highlight your selected activity boxes below to show your teacher which activities you have completed.
- Take a picture of the completed activities and submit your work in Schoology, OR via e-mail to your teacher OR you may turn in your selected activities with your distance learning packet on the date that is specified by your school.

2 Point Activities	3 Point Activities	5 Point Activities
<p><b>Activity A: Frisbee</b> A frisbee has a diameter of approximately 12 inches. What is the <b>circumference</b> of the frisbee? What is the <b>area</b> of the frisbee? Use 3.14 for pi. Draw a picture of a frisbee and label the dimensions (radius and diameter). Write the circumference and area on your drawing.</p> <p>Take a picture of your work to submit. <b>(2 points)</b></p>	<p><b>Activity C: Who's Correct?</b> Sarah says that you can use the <b>area</b> of a circle to figure out its <b>circumference</b>, but Dan does not agree. Who is correct? Explain your thinking and provide an example to support your answer.</p> <p>Take a picture of your work to submit. <b>(3 points)</b></p>	<p><b>Activity E: Running Track</b> You have been asked to design a circular practice running track for your school's track team. The track will have one lane that have a width of 2 meters and a circular interior center with a diameter of 8 meters . How much grass turf should your principal purchase for the center circular <b>area</b> of the running track? How much asphalt will be needed to pave the running lane? Label a diagram of the track. Take a picture of your work and diagram to submit. <b>(5 points) Track diagram is on page 6.</b></p>
<p><b>Activity B: Cereal Box</b> A box of cereal has a <b>volume</b> of 106 in<sup>3</sup>. What is one set of possible dimensions for the cereal box? Draw a picture of a cereal box and label the dimensions (length, width and height) to prove that 106 cubic inches is the volume.</p> <p>Take a picture of your work to submit. <b>(2 points)</b></p>	<p><b>Activity D: 3-D Nets</b> Cut out and create the rectangular prism and triangular prism made out of the nets located on page 6 of this packet. Next, calculate the <b>volume</b> of the 2 prisms.</p> <p>Take a picture of your work and the two 3-dimensional shapes to submit. <b>(3 points) 3-D Nets are on page 6.</b></p>	<p><b>Activity F: Volume Town</b> Construct a town with a minimum of <b>three</b> 3-D buildings. To do this, you will use graph paper to create a rectangular prism, a cube and a triangular prism (these are your 3 buildings). Create a key with the name of the buildings and their volumes. Give your town a name and color your buildings. Take a picture of your work and 3-D town to submit. <b>(5 points) Graph paper is on pages 8-10.</b></p>

# GEOMETRY 7<sup>th</sup> Grade Math: Choice Board 2

- Highlight your selected activity boxes below to show your teacher which activities you have completed.
- Take a picture of the completed activities and submit your work in Schoology, OR via e-mail to your teacher OR you may turn in your selected activities with your distance learning packet on the date that is specified by your school.

2 Point Activities	3 Point Activities	5 Point Activities
<p><b>Activity G: Area Graphic Organizer</b> Create an <b>area</b> formula graphic organizer sheet. You should identify, label and write the area formula used for each shape. You must also give a worked out example of each formula below the graphic organizer.</p> <p>Take a picture of your work to submit. <b>(2 points)</b> Graphic Organizer is on page 7.</p>	<p><b>Activity I: Notebook Page</b> Create your own notebook page that teaches others how to find the <b>surface area</b> and the <b>volume</b> of a rectangular prism. Your notebook page should include a learning objective, definitions of important vocabulary words, and at least 2 practice problems.</p> <p>Take a picture of your work to submit. <b>(3 points)</b></p>	<p><b>Activity K: Sandcastle</b> Draw a blueprint for a sandcastle using a variety of prisms (triangular and rectangular). Your castle should contain a minimum of <b>5</b> three-dimensional prisms. Calculate of the total <b>volume</b> of sand needed to build your sandcastle.</p> <p>Take a picture of your sandcastle and work to submit. <b>(5 points)</b> Graph paper is on pages 8-10.</p>
<p><b>Activity H: 3-D Foldable</b> Design a “3-D Figures” review foldable where students could practice matching 3-D figures to their nets and names. Include an answer key for your foldable.</p> <ul style="list-style-type: none"> <li>• Rectangular Prism</li> <li>• Triangular Prism</li> <li>• Cube</li> </ul> <p>Take a picture of your foldable and work to submit. <b>(2 points)</b></p>	<p><b>Activity J: FedEx Boxes</b> You have just been hired by FedEx to design a new shipping box. The box must use less than 300 in<sup>2</sup> of cardboard (<b>surface area</b>). You must present a model of your design to your boss so that manufacturing can begin. To do this, create a life-size net of your box with the dimensions labeled and the surface area clearly written.</p> <p>Take a picture of your FedEx box and work to submit. <b>(3 points)</b></p>	<p><b>Activity L: Wrapping Gifts</b> You have a job at a gift wrapping company for the holidays and can’t believe the crazy boxes that you have to wrap in all different sizes. You have 5,000 in<sup>2</sup> of wrapping paper left before your lunch break. (<b>surface area</b>) Draw and label the dimensions of the boxes that you still need to wrap after lunch before you can leave work. Note: You must use all of the wrapping paper.</p> <p>Take a picture of your drawings and work to submit. <b>(5 points)</b></p>

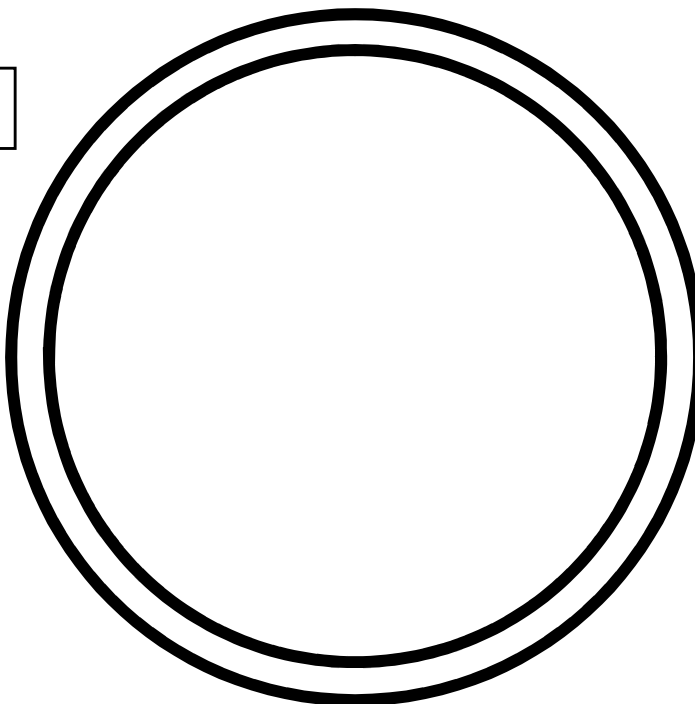
## 7<sup>th</sup> Grade Choice Board Activity Scoring Rubric

# GEOMETRY

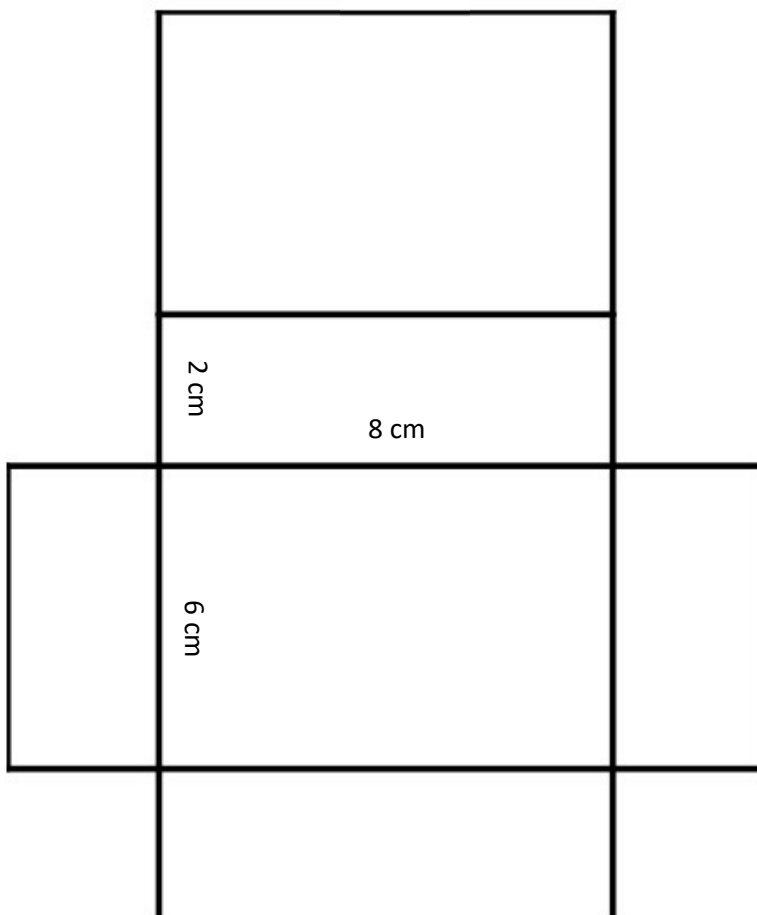
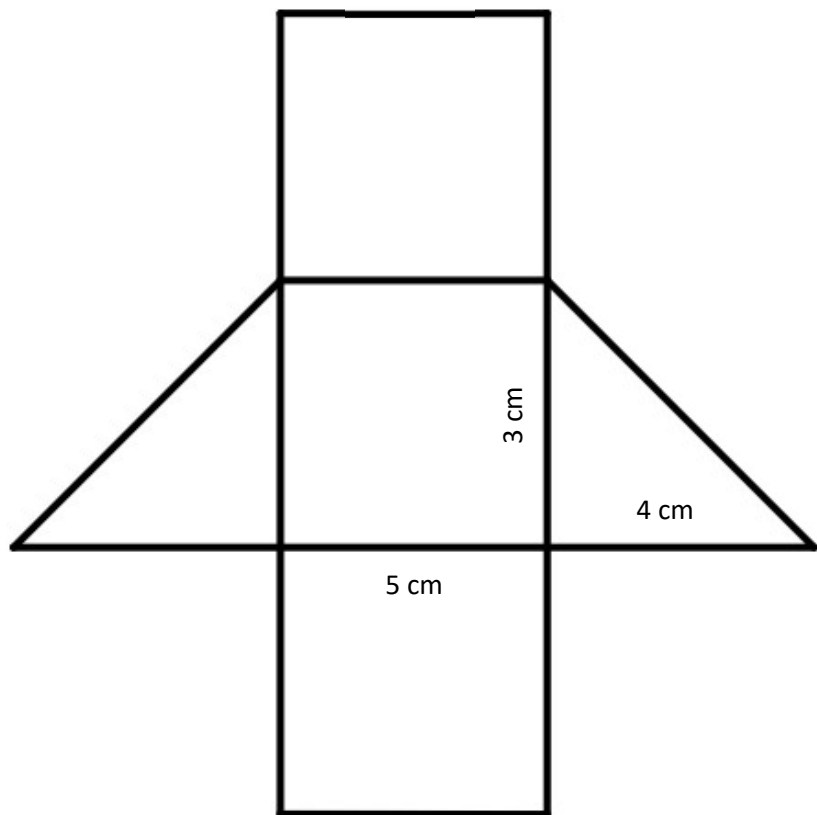
CATEGORY	Exceeds Standards 4	Meets Standards 3	Approaches Standards 2	Needs Improvement 1
<b>Required Elements</b>	Student included all of the information that was required. Additional details and/or components were added.	Student included all of the information that was required.	Almost all of the information that was required is included. One part or element is missing or incomplete.	Student included some information that was required but several important components are missing.
<b>Accuracy</b>	All math computations are accurate and absolutely no errors are present.	Most of the math computations are accurate but there are one or two small errors.	There are two to four small math computation errors or one major error present.	There are many math computation errors, and the student has not shown mastery.
<b>Mastery</b>	It is obvious that the student has an in-depth and extensive understanding of the geometry concepts. The student can accurately answer questions and explains his/her understanding in great detail.	The student has a strong understanding of the geometry concepts and has shown mastery. The student can accurately answer questions.	The student has a basic understanding of the geometry concepts, and the work completed does not show complete mastery.	The student has not shown mastery of the geometry concepts and cannot answer the majority of questions satisfactorily.
<b>Appearance</b>	The activities are exceptionally attractive in terms of design, layout, neatness, and overall appearance.	The activities are attractive in terms of design, layout, neatness, and overall appearance.	The activities are somewhat attractive. More time could have been spent on the overall appearance.	The overall appearance is not attractive. The activities look rushed and does not show the student's best effort.

## Activity E: Running Track Diagram

Name \_\_\_\_\_

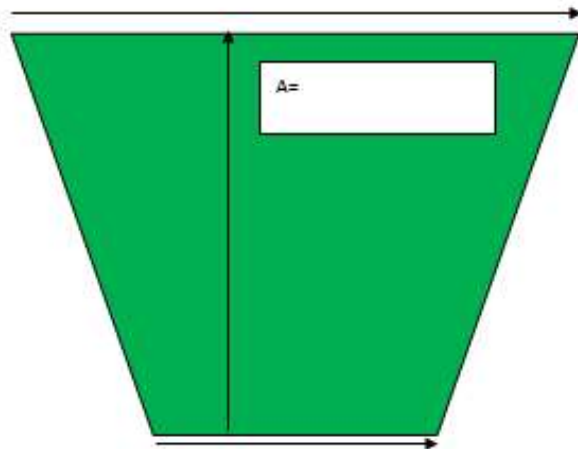
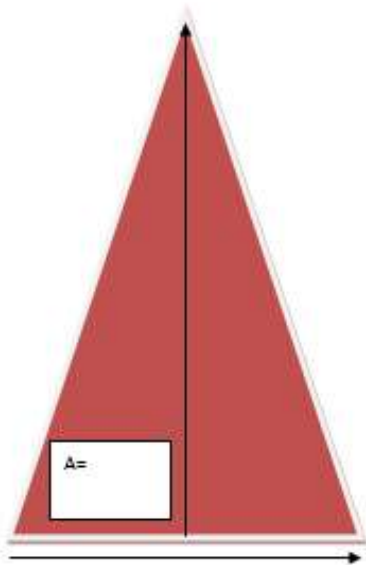
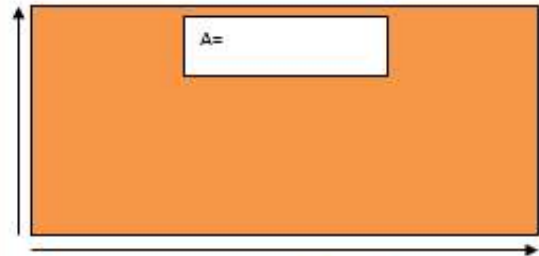
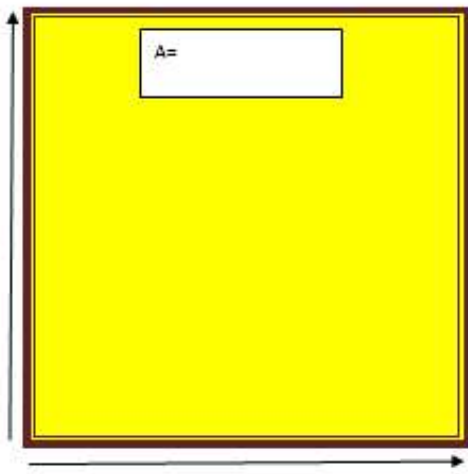
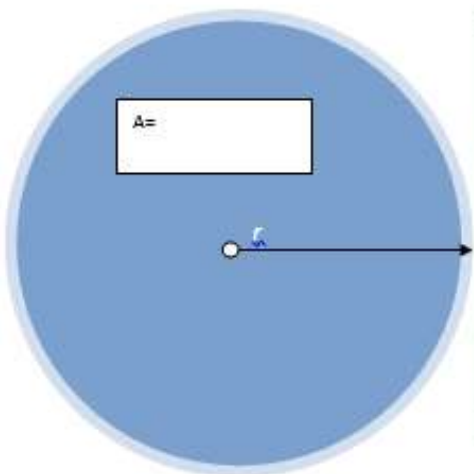


## Activity D: 3-D Nets



**Activity G: Area Graphic Organizer**

Name \_\_\_\_\_



**A**  
**R**  
**E**  
**A**

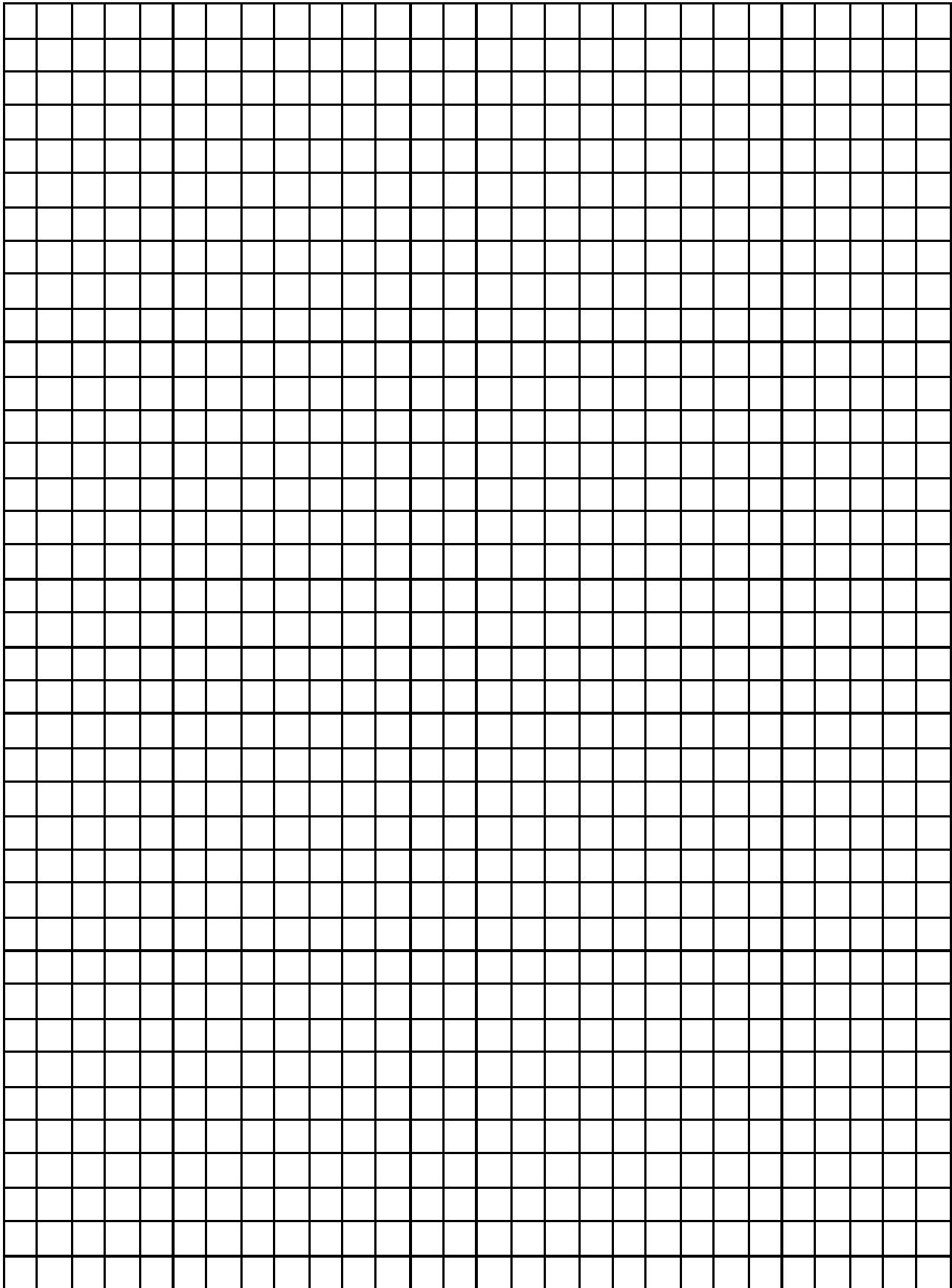
**AREA EXAMPLES:**

Circle	Triangle	Trapezoid	Rectangle	Square

**Graph Paper**

**Name:** \_\_\_\_\_

**Activity:** \_\_\_\_\_

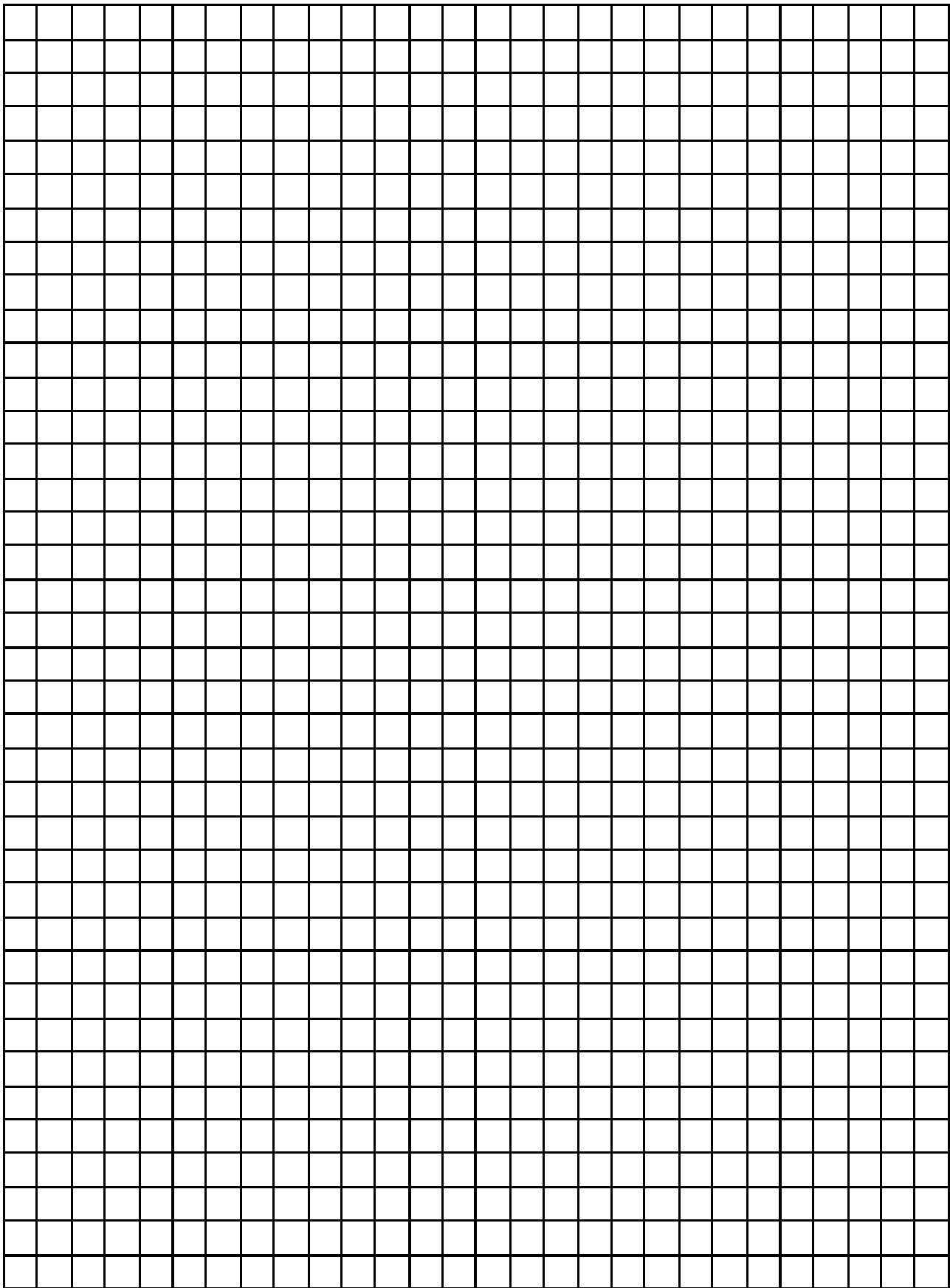




**Graph Paper**

**Name:**\_\_\_\_\_

**Activity:**\_\_\_\_\_



**Graph Paper**

**Name:**\_\_\_\_\_

**Activity:**\_\_\_\_\_

