

# Tasks




# Directions to Students about Answering Tasks

1. For this part of the assessment, make sure you have the following items along with *Booklet 2*:
  - a pencil and an eraser or a pen
  - a scientific or a graphing calculator
  - a ruler and a protractor
2. Do all of your work (even your rough work) in *Booklet 2*.
3. You will have 40 min to do 3 tasks. Allow about 15 min for Tasks 1 and 2 and about 10 min for Task 3. Give yourself time to answer all of the questions.
4. Figures in this section are not drawn to scale.
5. The tasks are designed to allow you an opportunity to show what you know and what you can do. Provide as much information as you can to show your understanding. Your teacher may be marking some of your work. In addition, someone who does not know your work will mark all of it, including what your teacher has marked. So, you must provide clear, well-organized answers to illustrate your complete understanding and ability to communicate in mathematics.
6. Make sure you follow directions from the *Key Words and Phrases in Instructions* sheet. It is provided for you so you will know the kind of question that is being asked.

For example, the question might ask you to “**Show your work.**” Read the *Key Words and Phrases in Instructions* sheet. It says to record all calculations. If you use your calculator, you need to show what calculations you do. If you sketch a graph in the process of getting to your solution, show the sketch and label it. Use proper and correct mathematical conventions when you present your work.
7. When using a calculator, write down the numbers and operations that you carried out on the calculator.

For example: Find the area of a circle with diameter of 7 cm.

You need to write  $A = \pi(3.5)^2$  as well as the answer you got on your calculator.
8. There are always many different ways to solve a problem. Use your broad range of mathematical knowledge to present a complete and creative solution to each question.
9. You have **40 min** to work.
10. When you see the  sign, you have completed the work for the day. Check your answers. Then wait quietly for directions from your teacher.

# Key Words and Phrases in Instructions

Throughout the assessment, key words and phrases are used to identify the type of response required from you. The key words and their explanations are listed below. Refer to these explanations to ensure you are responding to the question that is asked.

**Compare:**

Tell what is the same and what is different.

**Describe:**

Tell about something in a step-by-step manner.

Use words, numbers, graphs, diagrams, symbols, charts and/or pictures to do this.

**Explain:**

Use words and symbols to make your solutions clear and understandable.

**Give reasons for your answer:**

Explain your reasoning in your own words.

Give reasons and evidence to show your answer is correct or proper.

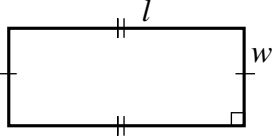
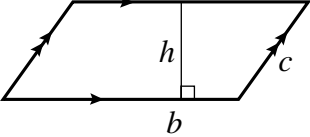
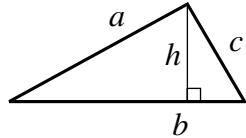
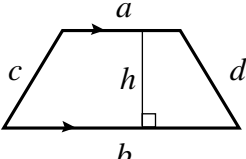
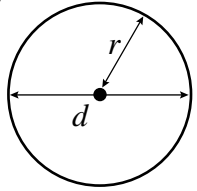
**List:**

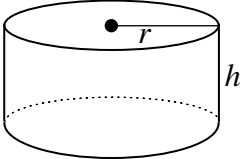
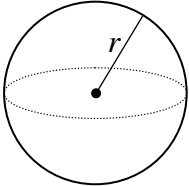
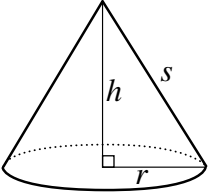
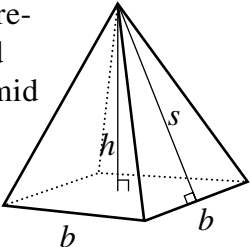
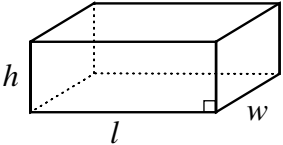
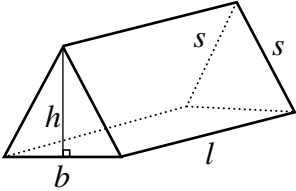
Write down or identify in point form.

**Show your work:**

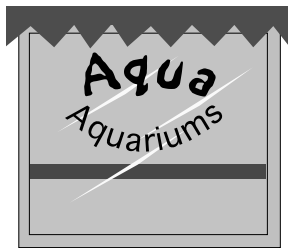
Record all calculations. Include all the steps you went through to get your answer. You may want to use words, numbers, graphs, diagrams, symbols, charts and/or pictures to explain your thinking.

# Formula Sheet

Geometric Figure	Perimeter	Area/Surface Area
<p>Rectangle</p> 	$P = 2l + 2w$ $P = 2(l + w)$	$A = lw$
<p>Parallelogram</p> 	$P = b + b + c + c$ $P = 2b + 2c$	$A = bh$
<p>Triangle</p> 	$P = a + b + c$	$A = \frac{bh}{2}$ <p><b>or</b></p> $A = \frac{1}{2}bh$
<p>Trapezoid</p> 	$P = a + b + c + d$	$A = \frac{(a + b)h}{2}$ <p><b>or</b></p> $A = \frac{1}{2}(a + b)h$
<p>Circle</p> 	$C = \pi d$ <p><b>or</b></p> $C = 2\pi r$	$A = \pi r^2$

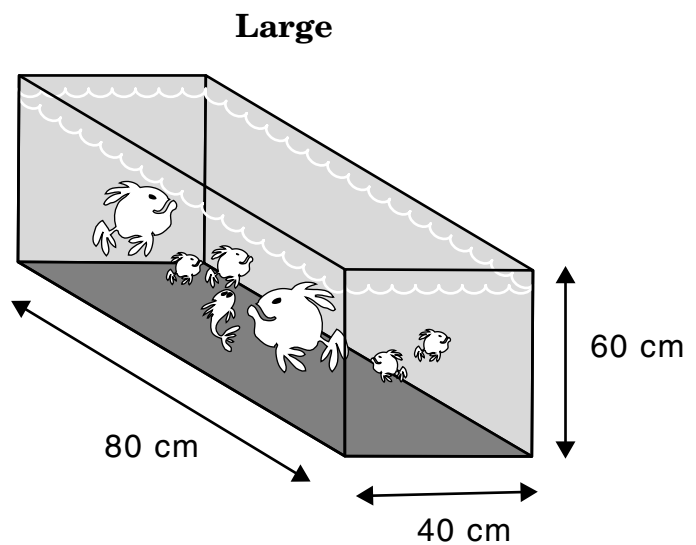
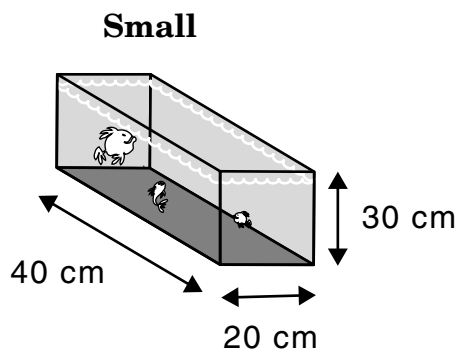
Geometric Figure	Area/Surface Area	Volume
Cylinder 	$A_{top} = \pi r^2$ $A_{base} = \pi r^2$ $A_{side} = 2\pi r h$ $A_{total} = 2\pi r^2 + 2\pi r h$	$V = \pi r^2 h$
Sphere 	$A = 4\pi r^2$	$V = \frac{4}{3} \pi r^3$
Cone 	$A_{cone} = \pi r s$ $A_{base} = \pi r^2$ $A_{total} = A_{cone} + A_{base}$	$V = \frac{1}{3} \pi r^2 h$
Square-based pyramid 	$A_{triangle} = \frac{1}{2} b s \text{ (for each triangle)}$ $A_{base} = b^2$ $A_{total} = A_{4 \text{ triangles}} + A_{base}$	$V = \frac{1}{3} b^2 h$
Rectangular prism 	$A_{total} = wh + wh + lw + lw + lh + lh$ $A = 2(wh + lw + lh)$	$V = lwh$
Isosceles triangular prism 	$A_{triangle} = \frac{1}{2} b h \text{ (for each triangle)}$ $A_{rectangles} = ls + lb + ls$ $A_{total} = A_{rectangles} + A_{2 \text{ triangles}}$	$V = \frac{1}{2} (bh)l$

# Task 1: Aquarium



Aqua Aquariums sells aquariums in the shape of rectangular prisms. The aquariums are available in two sizes, small and large, with dimensions as shown. Each aquarium has glass sides and bottom, but no top.

**NOTE:** These aquariums are NOT drawn to scale.



a) Calculate the volume of each aquarium.

Small

Large

- b) Calculate the total outside surface area of each aquarium.

**HINT:** The aquariums have no tops.

Small

Large

- c) The cost of materials required to build the aquariums is \$0.002/cm<sup>2</sup> of **surface area**. Determine the cost of materials required to build each aquarium. **Show your work.**

Small

Large

- d) The cost of the materials required to build the large aquarium is \_\_\_\_\_ times the cost of the materials required to build the small aquarium.

- e) The selling price of the small aquarium is \$24. The selling price of the large aquarium is \$115.

Do the selling prices of the aquariums seem appropriate according to your calculations? **Give reasons for your answer.**

- f) Mohammed went into the store to buy an aquarium. After comparing the small and large aquariums, he tells the owner, “The large aquarium should only cost two times as much as the small aquarium.”

He gives the following reasons:

- The dimensions of the large aquarium are two times bigger than those of the small aquarium.
- It takes two times more material to build the larger aquarium.

**Explain the mathematical error** in Mohammed’s reasons.

**HINT:**

To answer this question, refer to your previous answers for help.

## Task 2: Working for a Photographer

Sabine works for her mother who is a photographer. Each day she works she is paid a flat rate of \$10.00, plus an additional amount for each roll of film she develops.

The total amount she is paid for a day is represented by  $A$ .

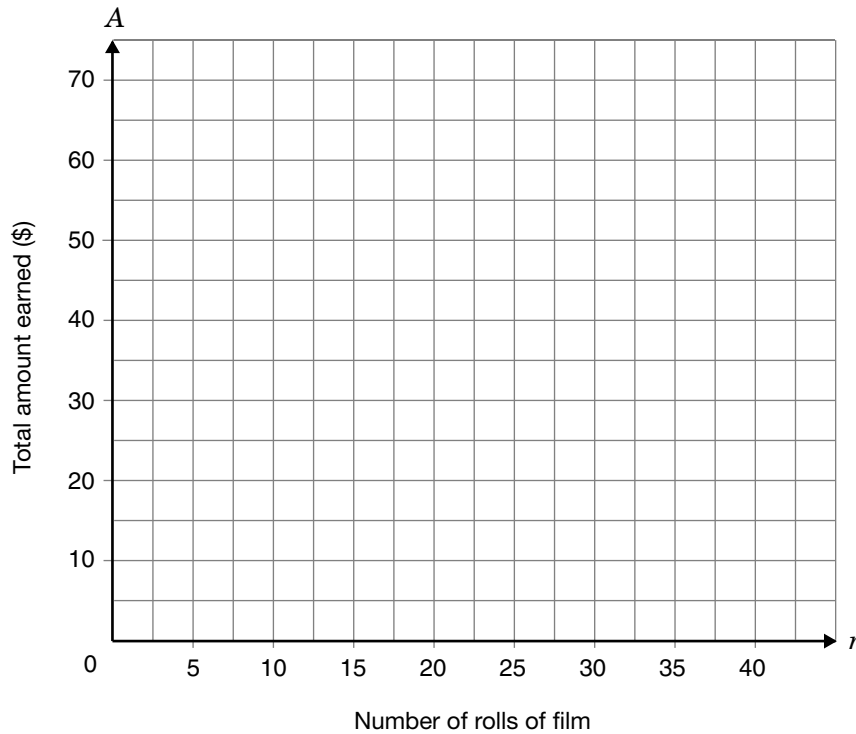
The number of rolls of film she develops is represented by  $r$ .



Number of rolls of films, $r$	Total amount paid, $A$ (in dollars)	First differences
5	17.50	
10	25.00	
15	32.50	
20	40.00	

- a) **Calculate** the first differences in the table. **Explain** what these first differences tell you about the way Sabine is paid.

**b) Graph** the relationship below.



**c) One day Sabine earns \$37.00.**

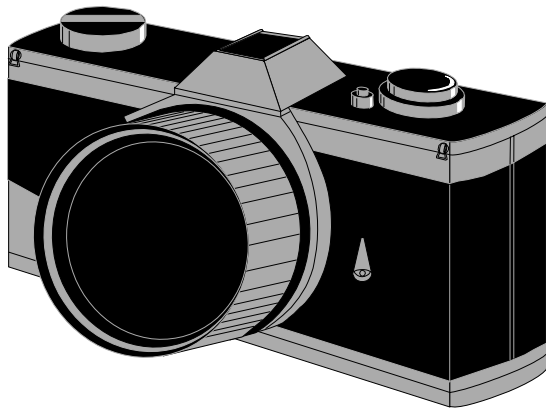
How many rolls of film does she develop that day?

**Give reasons for your answer.**

**d) Describe** how the graph in question **b)** would change if Sabine were paid **only** for the rolls of film she developed. She would receive no flat rate.

- e) Her mother suggests that Sabine be paid a flat rate of \$50.00 for each day's work. She will earn the same amount no matter how many rolls she develops.

Should Sabine accept this offer? **Give reasons for your answer.**

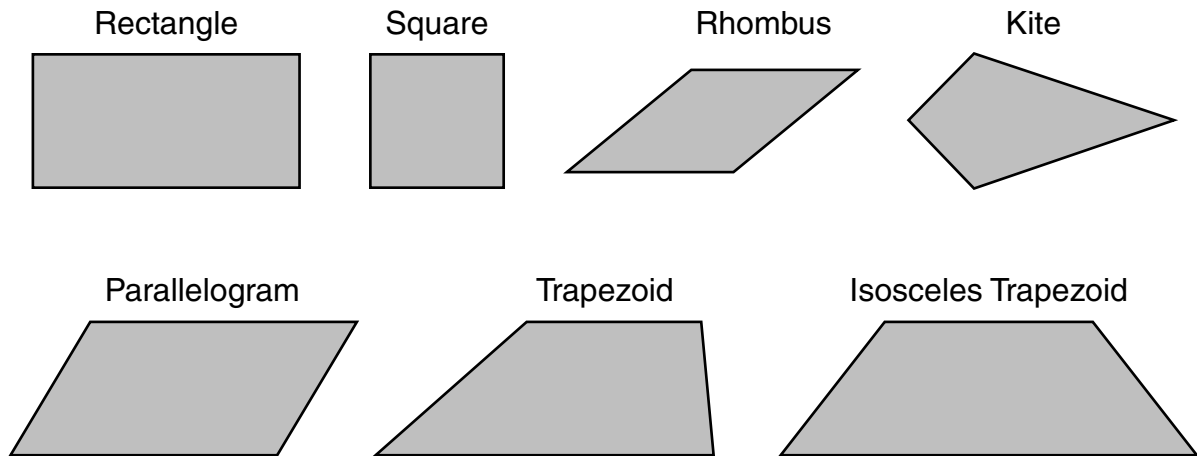




**Turn the page.**

## Task 3: What Shape Am I?

To do this task, imagine you are working with a box of toothpicks. Look at the following quadrilaterals. Refer to these pictures as you solve the toothpick puzzles.



Use drawings of toothpicks to help you solve each puzzle.

Draw a straight line for each toothpick.

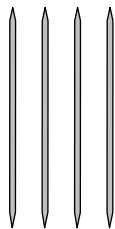
Do **not** draw overlapping toothpicks.

Do **not** draw broken toothpicks.

Name the quadrilateral described by the clues.



**a) Puzzle 1:**



Clue 1: *I am a quadrilateral that can be made with four toothpicks.*

Draw and name all the possible shapes I could be.

**HINT:**

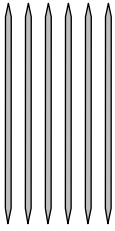
All your toothpicks must be the same length.

Clue 2: *I contain no 90° angles.*

Use your answers from Clue 1 and re-draw a quadrilateral for the new clue.

What shape am I? \_\_\_\_\_

**b) Puzzle 2:**



Clue 1: *I am a quadrilateral that can be made with exactly six toothpicks.*  
Draw and name all the possible shapes I could be.

**HINT:**

All your toothpicks must be the same length. You can place toothpicks end to end.

Clue 2: *Not all of my angles are  $90^\circ$ .*

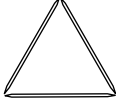
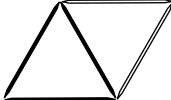
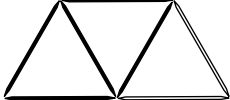
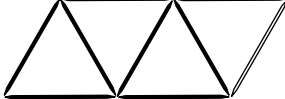

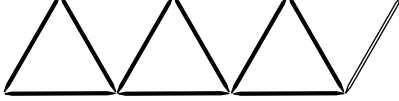
Use your answers from Clue 1 and **circle** the quadrilateral(s) that fit the new clue.

Clue 3: *My diagonals intersect at  $90^\circ$ .*

Use your answers from Clue 2 and **re-draw** the quadrilateral(s) that fit this new clue.

What shape am I? \_\_\_\_\_

- c) Marylou used three toothpicks to form a triangle. In each new row of the table, she used two more toothpicks to form one new triangle. For each row in the table, name the shape of the border formed by the toothpicks.

Number of Triangles	Shape	Name of the Shape of the Border
1		equilateral triangle
2		rhombus or parallelogram
3		
4		
5		
6		

- d) Complete the following sentence.

*If you have more than two triangles in a row, the shape of the border will be*

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## Extended Response Coding Guide — Applied Program Task #1 — Aquarium

b – blank: nothing at all is written for the solution

u – unrelated or unengaged: the student has written “I don’t know” or a question mark; the student has simply rewritten the question exactly as posed; the student has offered unrelated comments or drawn pictures; the student has not engaged in the problem solution

Erasures – If it is rubbed out and readable, mark it. If it is rubbed out and not readable, give it a code of u.

Category	Parts	Codes	Descriptions
KUN	c), d)	1	<ul style="list-style-type: none"> <li>no correct answers</li> </ul>
		2	<ul style="list-style-type: none"> <li>one correct answer, other answers are incorrect or missing [work may or may not be shown in <b>c)</b>]</li> </ul>
		3	<ul style="list-style-type: none"> <li>two correct answers, other answer is incorrect or missing [work may or may not be shown in <b>c)</b>]</li> </ul>
		4	<ul style="list-style-type: none"> <li>three correct answers with no supporting work in <b>c)</b></li> </ul>
		5	<ul style="list-style-type: none"> <li>three correct answers based on multiplying to find cost and dividing to find proportion [i.e., \$8.80 and \$35.20 in part <b>c)</b> and 4 in part <b>d)</b> with correct supporting work in <b>c)</b></li> <li><b>Note:</b> answers need only be correct based on work in previous sections</li> <li><b>Note:</b> correct units not necessary</li> </ul>
KUM	a)	1	<ul style="list-style-type: none"> <li>no correct answers</li> </ul>
		2	<ul style="list-style-type: none"> <li>one correct answer, the other incorrect or missing <b>or</b> correct volume formula used with error(s) in calculations</li> </ul>
		3	<ul style="list-style-type: none"> <li>correct answers (i.e., 24 000 cm<sup>3</sup>, 192 000 cm<sup>3</sup>)</li> <li><b>Note:</b> correct units not necessary</li> </ul>
APM	b)	1	<ul style="list-style-type: none"> <li>both answers incorrect and work shown is not appropriate to the context</li> </ul>
		2	<ul style="list-style-type: none"> <li>inappropriate selection of formula (e.g., <math>2lw + 2lh + lw</math>) with correct substitution <b>or</b></li> <li>appropriate selection of formula with incorrect substitution</li> </ul>
		3	<ul style="list-style-type: none"> <li>partially appropriate selection of formula with correct substitution (e.g., calculation does not include bottom of aquarium)</li> </ul>
		4	<ul style="list-style-type: none"> <li>proper selection of formula for six sides with correct substitution (e.g., includes top of aquarium)</li> </ul>
		5	<ul style="list-style-type: none"> <li>proper selection of formula for five sides with correct substitution (i.e., correct answers: 4400 cm<sup>2</sup> and 17 600 cm<sup>2</sup>)</li> </ul>
N	e)	1	<ul style="list-style-type: none"> <li>answers yes or no, no mention of previous calculations or selling price (e.g., “no it is not appropriate because I paid less for my aquarium”)</li> </ul>
		2	<ul style="list-style-type: none"> <li>answers yes or no, mentions previous calculations, no comparison to selling price (e.g., “no because in all my other calculations the large tank was 4 times bigger”) <b>or</b></li> <li>answers yes or no, mentions selling price, no comparison to previous calculations</li> </ul>
		3	<ul style="list-style-type: none"> <li>answers yes or no, indirect comparison of previous calculations to selling price (e.g., “No because the price is too high, it only costs \$6.40 to make the small one and \$25.60 to make the large one. They need to make a profit but this is too high.”)</li> </ul>
		4	<ul style="list-style-type: none"> <li>answers yes or no, direct comparison to previous calculations, but no proportional comparison made to selling price (e.g., “<math>24 \times \\$8.80 = \\$15.30</math>, <math>115 \times \\$35.20 = \\$79.80</math> No this isn’t fair, the companies are making too much profit.”)</li> </ul>
		5	<ul style="list-style-type: none"> <li>answers yes or no, direct proportional comparison between previous calculations and selling price (e.g., “It’s appropriate because the cost of materials for the large aquarium is 4 times the cost of materials for the small aquarium and the selling price of the large aquarium is 4.79 times the selling price of the small aquarium. The rate is almost the same so the selling prices are appropriate.”)</li> <li><b>Note:</b> student work should be scored relative to answers in previous sections</li> </ul>

**Extended Response Coding Guide — Applied Program**  
**Task #1 — Aquarium**

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Category	Parts	Codes	Descriptions
PS N	f)	1	<ul style="list-style-type: none"> <li>no explanation provided (e.g., “Mohammed is wrong” <b>or</b> “Mohammed is right”)</li> </ul>
		2	<ul style="list-style-type: none"> <li>provides explanation with errors or inconsistencies (e.g., “Mohammed is right, the large aquarium should cost twice as much”; “In part <b>e</b>) I saw that the large aquarium was priced too high, so Mohammed is right, it should cost less.”)</li> </ul>
		3	<ul style="list-style-type: none"> <li>provides correct explanation limited to the context of this problem, which follows from answer given in part <b>b</b>), <b>c</b>) or <b>d</b>) (e.g., “I calculated that it takes 4 times as much material to make the large aquarium, so it should cost 4 times as much.”)</li> </ul>
		4	<ul style="list-style-type: none"> <li>provides correct explanation of the error in Mohammed’s reasoning with reference to wider mathematical context (e.g., “The dimensions may be twice as large, but since the SA formula multiplies two dimensions together, this means the SA will be 4 times as large, so it will take 4 times as much material to make the large aquarium.”)</li> </ul> <p><b>Note:</b> the work is to be scored based on the answer in <b>d</b>)</p>
CM	e), f) (presentation of thinking)	1	<ul style="list-style-type: none"> <li>communication of thinking is rarely clear and does not reveal processes (e.g., work shown and explanations given in <b>e</b>) and <b>f</b>) reveal little of the thinking process and are unclear)</li> </ul>
		2	<ul style="list-style-type: none"> <li>communication is somewhat clear and reveals some processes (e.g., work shown and explanations given in <b>e</b>) and <b>f</b>) reveal some of the thinking process and are somewhat clear)</li> </ul>
		3	<ul style="list-style-type: none"> <li>communication is clear and reveals processes (e.g., work shown and explanations given in <b>e</b>) and <b>f</b>) reveal the thinking process and are clear)</li> </ul>
	a), b), c), e) (mathematical conventions)	1	<ul style="list-style-type: none"> <li>mathematical conventions are rarely used properly when required [e.g., does not include proper units (\$, cm<sup>2</sup>, cm<sup>3</sup>) in <b>a</b>), <b>b</b>), <b>c</b>) and <b>e</b>) where appropriate]</li> </ul>
		2	<ul style="list-style-type: none"> <li>mathematical conventions are often used properly when required (e.g., includes units where appropriate and misuses equal signs consistently)</li> </ul>
		3	<ul style="list-style-type: none"> <li>mathematical conventions [use of symbols (+, =, etc.), units (\$, cm<sup>2</sup>, cm<sup>3</sup>) and mathematical form] are used properly when required</li> </ul>

**Extended Response Coding Guide — Applied Program**  
**Task #2 — Working for a Photographer**

b – blank: nothing at all is written for the solution

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Category	Parts	Codes	Descriptions
<b>Ignore any shapes that are not quadrilaterals</b>			
KU M	a) Clue 1	1	<ul style="list-style-type: none"> <li>no correct geometric figures identified or many given shapes copied</li> </ul>
	b) Clue 1	2	<ul style="list-style-type: none"> <li>one, two or three geometric figures correctly identified</li> </ul>
	c)	3	<ul style="list-style-type: none"> <li>four or five geometric figures correctly identified</li> </ul>
		4	<ul style="list-style-type: none"> <li>six, seven or eight geometric figures correctly identified</li> </ul>
		5	<ul style="list-style-type: none"> <li>nine geometric figures correctly identified (i.e., in part <b>a</b>), square and rhombus; in part <b>b</b>), rectangle, parallelogram and kite; in part <b>c</b>), trapezoid/isosceles trapezoid, parallelogram, trapezoid/isosceles trapezoid, parallelogram)</li> <li><b>Note:</b> label and/or diagram should be counted; in part <b>a</b>), accept rectangle instead of square and parallelogram or diamond instead of rhombus</li> </ul>
AP M	a) Clue 2	1	<ul style="list-style-type: none"> <li>no correct selections</li> </ul>
	b) Clue 2	2	<ul style="list-style-type: none"> <li>one or two selections correct based on available choices from previous clue</li> </ul>
	b) Clue 3	3	<ul style="list-style-type: none"> <li>three selections correct based on available choices from previous clue</li> </ul>
		4	<ul style="list-style-type: none"> <li>four selections are correct (e.g., in part <b>a</b>), rhombus; in part <b>b</b>), clue 2, parallelogram and kite; in part <b>b</b>), clue 3, kite)</li> </ul>
PS M	d)	1	<ul style="list-style-type: none"> <li>conclusion incorrect based on table</li> </ul>
		2	<ul style="list-style-type: none"> <li>conclusion is “quadrilateral”</li> </ul>
		3	<ul style="list-style-type: none"> <li>conclusion partially correct and/or incomplete based on table (e.g., names one of trapezoid/isosceles trapezoid or parallelogram)</li> </ul>
		4	<ul style="list-style-type: none"> <li>conclusion correct and complete based on table (e.g., trapezoid/isosceles trapezoid alternating with a parallelogram)</li> </ul>
CM	all (presentation of thinking)	1	<ul style="list-style-type: none"> <li>communication is unclear and does not reveal the thinking process (e.g., diagrams are not representative or are absent)</li> </ul>
		2	<ul style="list-style-type: none"> <li>communication is somewhat clear and reveals some of the thinking process (e.g., diagrams are somewhat representative)</li> </ul>
		3	<ul style="list-style-type: none"> <li>communication is clear and complete and reveals the thinking process (e.g., diagrams are representative)</li> <li><b>Note:</b> a representative diagram “looks like” the name provided</li> </ul>

**Extended Response Coding Guide — Applied Program**  
**Task #2 — Working for a Photographer**

b – blank: nothing at all is written for the solution

u – unrelated or unengaged: the student has written “I don’t know” or a question mark; the student has simply rewritten the question exactly as posed; the student has offered unrelated comments or drawn pictures; the student has not engaged in the problem solution

Erasures – If it is rubbed out and readable, mark it. If it is rubbed out and not readable, give it a code of u.

Category	Parts	Codes	Descriptions
KU R	a)	1	<ul style="list-style-type: none"> <li>first differences are calculated incorrectly with incorrect or missing interpretation of the first differences as representing the rate</li> </ul>
		2	<ul style="list-style-type: none"> <li>first differences are calculated correctly with incorrect interpretation of the first difference (e.g., \$7.50/roll) as representing the rate</li> </ul>
		3	<ul style="list-style-type: none"> <li>first differences are calculated correctly with incomplete or partially correct interpretation of the first differences as representing the rate (e.g., “linear” without reference to the change in number of rolls, \$7.50 for 5 hours of work)</li> <li>2 of 3 first differences calculated correctly with correct interpretation of first difference</li> </ul>
		4	<ul style="list-style-type: none"> <li>first differences are calculated correctly (i.e., 7.5) with correct interpretation of the first differences as representing the rate (e.g., \$7.50 for 5 rolls, \$1.50/roll)</li> </ul>
R	b)	1	<ul style="list-style-type: none"> <li>ordered pairs from the table of values plotted incorrectly</li> </ul>
		2	<ul style="list-style-type: none"> <li>1 ordered pair from the table of values plotted correctly</li> </ul>
		3	<ul style="list-style-type: none"> <li>2 ordered pairs from table of values plotted correctly</li> </ul>
		4	<ul style="list-style-type: none"> <li>3 or 4 ordered pairs from table of values plotted correctly</li> </ul>
AP R	c)	1	<ul style="list-style-type: none"> <li>inappropriate or no choice of tool(s) (e.g., 65 rolls of film by reading the wrong axis or \$16.50)</li> </ul>
		2	<ul style="list-style-type: none"> <li>proper choice of tool(s) (e.g., graph, table, words, equation) fitted inappropriately to the context (e.g., <math>(37 / 7.5) 5 = 24</math> or 25 rolls of film)</li> </ul>
		3	<ul style="list-style-type: none"> <li>proper choice of tool(s) (e.g., graph, table, words, equation) partially fitted to the context (e.g., “she developed about 16 rolls of film”)</li> </ul>
		4	<ul style="list-style-type: none"> <li>proper choice of tool(s) (e.g., graph, table, words, equation) fitted appropriately to the context [e.g., <math>(37 - 10) / 1.5 = 18</math> or she develops 17 rolls of film because for each film she gets around \$1.50]</li> </ul>
R	d)	1	<ul style="list-style-type: none"> <li>inappropriate choice of tool (e.g., “she would be paid less, you would have to subtract \$10 for each amount paid”)</li> </ul>
		2	<ul style="list-style-type: none"> <li>appropriate choice of tool (e.g., graph or words) fitted inappropriately to the context (e.g., the line will be horizontal or will decrease or the slope of the line will be steeper or selection of appropriate tool evident on graph without specific description)</li> </ul>
		3	<ul style="list-style-type: none"> <li>appropriate choice of tool (e.g., graph or words) fitted appropriately to the context (e.g., the A-intercept will be 0)</li> </ul>
PS R	e)	1	<ul style="list-style-type: none"> <li>response is “yes” or “no” with no reasoning</li> </ul>
		2	<ul style="list-style-type: none"> <li>response is “yes” or “no” with incomplete or incorrect reasoning (e.g., “she should because she is making more money this way”)</li> </ul>
		3	<ul style="list-style-type: none"> <li>response is correct with reasoning not connected to previous work (e.g., “she would get paid \$50.00 for doing no work”)</li> </ul>
		4	<ul style="list-style-type: none"> <li>response is correct, with reasoning connected to the graph or chart with no reference to the point of intersection (e.g., “she should take the first plan because in the end the graph is higher so she makes more money” or “yes because she could do 1 roll and get \$50 instead of \$17.50”)</li> </ul>
		5	<ul style="list-style-type: none"> <li>response is correct, with complete reasoning connected to the graph and reference to the point of intersection (e.g., “she should take it if she develops fewer than 27 rolls of film each day”)</li> </ul>

**Extended Response Coding Guide — Applied Program  
Task #2 — Working for a Photographer**

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Erasures – If it is rubbed out and readable, mark it. If it is rubbed out and not readable, give it a code of u.

Category	Parts	Codes	Descriptions
CM	a), c), d), e) (presentation of thinking)	1	<ul style="list-style-type: none"> <li>communication is unclear and does not reveal the thinking process</li> </ul>
		2	<ul style="list-style-type: none"> <li>communication is partially clear and reveals some of the thinking process</li> </ul>
		3	<ul style="list-style-type: none"> <li>communication is clear and reveals the thinking process</li> </ul>
	a), c), d), e) (mathematical conventions)	1	<ul style="list-style-type: none"> <li>mathematical conventions are rarely used properly when required</li> </ul>
		2	<ul style="list-style-type: none"> <li>mathematical conventions are sometimes used properly when required</li> </ul>
		3	<ul style="list-style-type: none"> <li>mathematical conventions are used properly when required [e.g., proper units (e.g., dollars/roll), symbols (e.g., \$, =) and words (e.g., parallel, A-intercept) used properly throughout]</li> </ul>

**Extended Response Coding Guide — Applied Program**  
**Task #3 — What Shape Am I?**

b – blank: nothing at all is written for the solution

u – unrelated or unengaged: the student has written “I don’t know” or a question mark; the student has simply rewritten the question exactly as posed; the student has offered unrelated comments or drawn pictures; the student has not engaged in the problem solution

Erasures – If it is rubbed out and readable, mark it. If it is rubbed out and not readable, give it a code of u.

Category	Parts	Codes	Descriptions
<b>Ignore any shapes that are not quadrilaterals</b>			
KU M	a) Clue 1	1	<ul style="list-style-type: none"> <li>no correct geometric figures identified or many given shapes copied</li> </ul>
	b) Clue 1	2	<ul style="list-style-type: none"> <li>one, two or three geometric figures correctly identified</li> </ul>
	c)	3	<ul style="list-style-type: none"> <li>four or five geometric figures correctly identified</li> </ul>
		4	<ul style="list-style-type: none"> <li>six, seven or eight geometric figures correctly identified</li> </ul>
		5	<ul style="list-style-type: none"> <li>nine geometric figures correctly identified (i.e., in part <b>a</b>), square and rhombus; in part <b>b</b>), rectangle, parallelogram and kite; in part <b>c</b>), trapezoid/isosceles trapezoid, parallelogram, trapezoid/isosceles trapezoid, parallelogram)</li> <li><b>Note:</b> label and/or diagram should be counted; in part <b>a</b>), accept rectangle instead of square and parallelogram or diamond instead of rhombus</li> </ul>
AP M	a) Clue 2	1	<ul style="list-style-type: none"> <li>no correct selections</li> </ul>
	b) Clue 2	2	<ul style="list-style-type: none"> <li>one or two selections correct based on available choices from previous clue</li> </ul>
	b) Clue 3	3	<ul style="list-style-type: none"> <li>three selections correct based on available choices from previous clue</li> </ul>
		4	<ul style="list-style-type: none"> <li>four selections are correct (e.g., in part <b>a</b>), rhombus; in part <b>b</b>), clue 2, parallelogram and kite; in part <b>b</b>), clue 3, kite)</li> </ul>
PS M	d)	1	<ul style="list-style-type: none"> <li>conclusion incorrect based on table</li> </ul>
		2	<ul style="list-style-type: none"> <li>conclusion is “quadrilateral”</li> </ul>
		3	<ul style="list-style-type: none"> <li>conclusion partially correct and/or incomplete based on table (e.g., names one of trapezoid/isosceles trapezoid or parallelogram)</li> </ul>
		4	<ul style="list-style-type: none"> <li>conclusion correct and complete based on table (e.g., trapezoid/isosceles trapezoid alternating with a parallelogram)</li> </ul>
CM	all (presentation of thinking)	1	<ul style="list-style-type: none"> <li>communication is unclear and does not reveal the thinking process (e.g., diagrams are not representative or are absent)</li> </ul>
		2	<ul style="list-style-type: none"> <li>communication is somewhat clear and reveals some of the thinking process (e.g., diagrams are somewhat representative)</li> </ul>
		3	<ul style="list-style-type: none"> <li>communication is clear and complete and reveals the thinking process (e.g., diagrams are representative)</li> <li><b>Note:</b> a representative diagram “looks like” the name provided</li> </ul>

**Task #3 — What Shape Am I?**  
**Assigned Codes and Rationale for Student Work**

Category and Strands	Portion of Task	Code	Rationale
KU M	a), b), c)	5	<ul style="list-style-type: none"> <li>The student correctly identifies nine geometric figures in clue 1 of part <b>a)</b>, clue 1 of part <b>b)</b> and part <b>c)</b>.</li> </ul>
AP M	a), b)	3	<ul style="list-style-type: none"> <li>Selection for clue 2 in part <b>a)</b> is correct. Clue 2 in part <b>b)</b> leads the student to circle the kite and the parallelogram. Response for clue 3 in part <b>b)</b> should lead to a kite rather than a rectangle as the selected geometric figure.</li> </ul>
PS M	d)	3	<ul style="list-style-type: none"> <li>The student correctly concludes that the shape of the border will be either an isosceles trapezoid or a parallelogram. The response lacks specificity about the alternating pattern.</li> </ul>
CM	all	3	<ul style="list-style-type: none"> <li>The diagrams constructed by the student clearly reflect the intended geometric figures.</li> </ul>