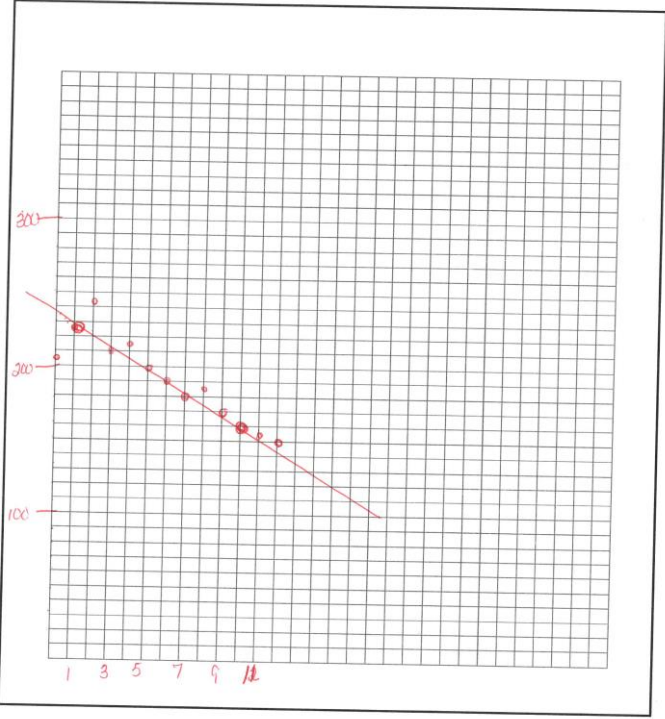


PBA Scoring Guide: Module 2 Graduation Celebration

The chart below offers guidance for scoring the PBA. If there is a right answer, it is provided below. Students answers may vary from the scoring guide depending on the student’s calculations. Additionally, if there are answers that rely upon interpretation with student justification, it is responsibility of the tutor/evaluator to judge if the student answers work answers the question satisfactory. It is essential that a tutor/evaluator carefully evaluate all student responses to ensure accurate/reasonable answers. Responses should demonstrate satisfactory performance of the related Eligible Content.

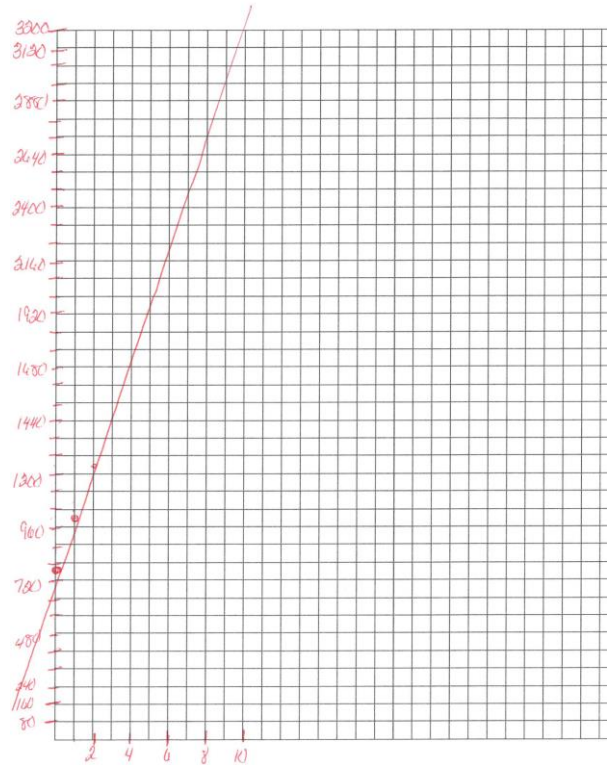
Evaluative Factor/Criteria for Presentation	Scoring Guidance
Task 1: Who’s In?	
<i>Activity 1: Scatter It!</i>	
Create a scatter plot for the information above based on years and attendance.	Answers can vary depending on scale. See example below.

Evaluative Factor/Criteria for Presentation	Scoring Guidance
	
Activity 2: Fit It!	
<p>a. Choose two points ON your line of best fit. (Points should be written as ordered pairs)</p>	Point 1: (1,225); Point 2: (10,160)
<p>b. Using your two points, calculate the slope of the line of best fit.</p>	$225-160 / 1-10 = 65/-9 = -7.2$

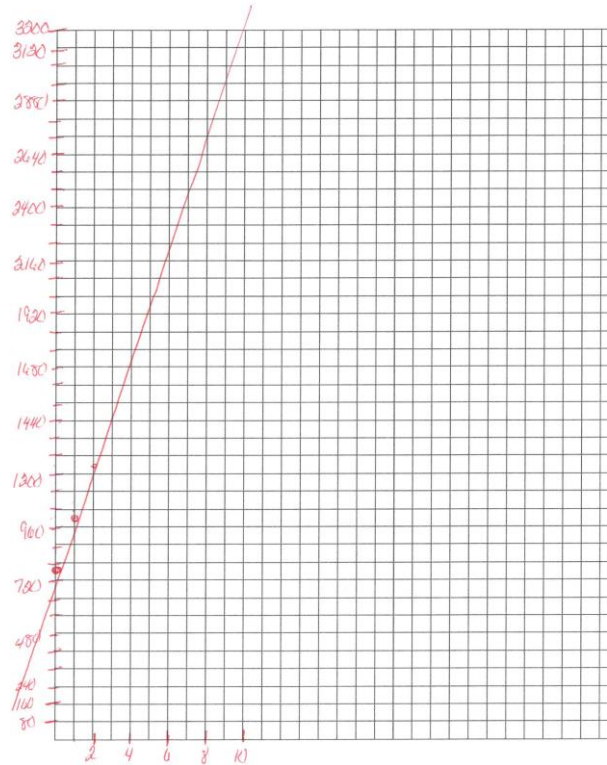
Evaluative Factor/Criteria for Presentation	Scoring Guidance
c. Using the slope and a point you have found, calculate the y-intercept (b).	$b = 232.2$
d. Write the equation of the line in slope-intercept form: (use $y = mx+b$)	$y = -7.2x + 232.2$
<i>Activity 3: Predict It!</i>	
Write the Line of Best Fit	$y = -7.2x + 232.2$
How many people do you predict will attend the party in 2020?	$y = -7.2(13) + 232.2$ $y = 149.7$ (150 people)
Task 2: Raise the Funds	
<i>Activity 1: Line It Up!</i>	
a. Choose two points from your table. (Points should be written as ordered pairs.)	Point 1: (1,1000); Point 2: (2,1250)
b. Using your two points, calculate the slope of the line. Show all work. Explain the meaning of the slope in the context of this situation.	$m = 250$

Evaluative Factor/Criteria for Presentation	Scoring Guidance
c. Calculate the y-intercept, b. Show all work. Explain the meaning of the y-intercept in the context of this situation.	$b = 750$
d. Write the equation of the line.	$y = 750 + 250x$
<i>Activity 2: Graph It Out!</i>	
a. Graph the linear equation from Activity 1, Task 2, on the coordinate plane provided <ol style="list-style-type: none"> 1. Determine the scale for X axis. 2. Determine the scale of the y-axis. 3. Now graph the function. 	Answers will vary depending on students graph, an example: <ol style="list-style-type: none"> 1. Each block = one month; there are at most 10 months in your senior year 2. Each block is \$80; at most you will have \$3250 in the 10 months and there are 40 blocks, $3250/40$ is \$81.25 so round to \$80

3. Now graph the function.



3.

	<p>3. Now graph the function.</p>  <p>3.</p>
<p>b. What is a reasonable domain for this line? Provide your explanation in the space below.</p>	<p>(0,10) for the number of months in a school year.</p>
<p>c. What is a reasonable range for this line?</p>	<p>(1000, 3250) unless you start to earn more than \$250 a month.</p>
<p>d. Does this equation represent a function?</p>	<p>Yes, passes the vertical line test.</p>

Evaluative Factor/Criteria for Presentation	Scoring Guidance
<i>Activity 3: Predict It!</i>	
a. You need to raise \$2,750. At the end of what month will you accomplish this task?	March
b. If you continue to raise money until May, what is the total amount available?	3250
Task 3: Where's the Party?	
<i>Activity 1: The School Gymnasium?</i>	
a. Calculate the cost per hour to rent the school gymnasium.	\$60/hour
b. Write an equation for the cost to hold the party in the school gymnasium	$C = 60h$
<i>Activity 2: Community Park?</i>	
a. What is the rental fee for the community park regardless of the number of hours rented?	\$275

Evaluative Factor/Criteria for Presentation	Scoring Guidance				
b. Given $C = \$275$ for the cost of a Community Park, what is the slope in this situation? What does it represent?	0 - means it is a horizontal line or no change regardless of the time.				
<i>Activity 3: Banquet Hall?</i>					
a. Calculate the cost per hour (rate of change) for the banquet hall. Provide units on your answer and show and/or explain all your work.	$(0, 265)$ $(7, 290)$ $\$25/7$ per hour				
b. Determine the rental fee for the banquet hall.	$\$3.57$ per hour plus base fee				
c. Write an equation for the cost based on the number of hours the banquet hall is rented.	$y = 265 + 3.57h$				
<i>Activity 4: Which is the Best?</i>					
a. If you are planning for a 5 hour party, calculate the total cost for each venue.	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th data-bbox="890 1187 1419 1256">Venue</th> <th data-bbox="1419 1187 1955 1256">Cost</th> </tr> </thead> <tbody> <tr> <td data-bbox="890 1256 1419 1393" style="text-align: center;">School Gymnasium</td> <td data-bbox="1419 1256 1955 1393" style="text-align: center;">300</td> </tr> </tbody> </table>	Venue	Cost	School Gymnasium	300
Venue	Cost				
School Gymnasium	300				

	<table border="1"> <tr> <td>Community Park</td> <td>275</td> </tr> <tr> <td>Banquet Hall</td> <td>282.85</td> </tr> </table>	Community Park	275	Banquet Hall	282.85				
Community Park	275								
Banquet Hall	282.85								
b. Which location is the most economical?	The community park is the least for the 5 hour party.								
Task 4: Feed Me!									
<i>Activity 1: Food Choices</i>									
Based upon the survey, how many of each entree should be ordered?	<table border="1"> <tr> <td>Chicken</td> <td>12</td> </tr> <tr> <td>Beef</td> <td>30</td> </tr> <tr> <td>Vegetarian</td> <td>12</td> </tr> <tr> <td>Pork</td> <td>45</td> </tr> </table>	Chicken	12	Beef	30	Vegetarian	12	Pork	45
Chicken	12								
Beef	30								
Vegetarian	12								
Pork	45								

	<table border="1"> <tr> <td></td> <td>_____</td> </tr> <tr> <td></td> <td>42</td> </tr> <tr> <td></td> <td>_____</td> </tr> </table>		_____		42		_____

	42						

Activity 2: Food Costs Per Person							
a. Using this data, find the mean, median, and mode of the data. Show all work.	Mean – 9.825 Median – 9 Mode – 8.25						
b. What is the range of the data?	18-8 = 10						
c. Which central tendency is the best representation of this data. Why?	The median as the 18 may be an outlier.						
d. Which catering company's cost per student is cheapest but closest to the measure of central tendency you chose in Part C?	What the Spoon, 8.75.						
e. Using the above company for the estimated 150 students, calculate the food cost.	$\$8.75 \times 150 = \1312.50						

Evaluative Factor/Criteria for Presentation	Scoring Guidance																	
Task 5: Let's Get This Party Started!																		
<i>Activity 1: Box Me with Entertainment!</i>																		
a. What is the range of the cost for entertainment?	Approximately $750 - 15 = 735$																	
b. Are any outliers represented? Explain what an outlier means in relationship to the data.	Technically outliers may not be part of the Algebra 1 curriculum so students may not have this knowledge. Students may say 15 is a lower outlier.																	
c. Using the box-and-whisker plot, what percent of the data lies between 15 and 610?	75%																	
d. What is the interquartile range of the data? What percentage of the data does this value represent?	$610 - 375 = 235$; this is 50% of the data.																	
<i>Activity 2: Probability – So What's My Chance?</i>																		
Calculate the probability that you will win each prize and enter your answer in the box provided.	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%;">Number of Tickets You Entered</td> <td style="width: 15%;">Number of Total Tickets in</td> <td style="width: 15%;">Find the probability of each in fraction form (make sure to</td> <td style="width: 15%;">Find the probability of each in decimal form (round to the</td> <td style="width: 15%;">Find the probability of each in percent form (round to the</td> </tr> <tr> <td>Prize</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							Number of Tickets You Entered	Number of Total Tickets in	Find the probability of each in fraction form (make sure to	Find the probability of each in decimal form (round to the	Find the probability of each in percent form (round to the	Prize					
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Prize																		

Evaluative Factor/Criteria for Presentation	Scoring Guidance					
		in the Drawing	the Drawing	reduce all fractions when applicable)	nearest ten thousandths)	nearest tenth of a percent)
	Beauty Salon Gift Card	1	13	1/13	0.077	7.7%
	Restaurant Gift Card	3	23	3/23	0.130	13%
	\$100 Debit Card	6	80	6/80	0.075	7.5%
	\$100 Music Card	8	67	8/67	0.119	11.9%
	Amusement Park Passes (2)	0	187	0/187	0.0	0%
a. What is the probability for you to win either the \$100 debit card or the \$100 music card?	0.075 + 0.119 = 0.194					

Evaluative Factor/Criteria for Presentation	Scoring Guidance					
b. What is the probability for you to win both the \$100 debit card and the \$100 music card?	$0.075 \times 0.119 = 0.009$					
<i>Activity 3: Entertainment!</i>	Students answers may vary.					
Task 6: Is There Enough Money?						
<i>Activity 1: Location, Location, Location!</i>						
Referring to Task 3, Activity 4, part a, which location was the cheapest?	Location: Community Park Price: \$275					
<i>Activity 2: Feed Me!</i>						
Referring to Task 4, Activity 2, Part E, which catering company did you select?	Company: What the Spoon Price: \$1312.50					
<i>Activity 3: Entertainment!</i>						
Given that your senior class raised \$2,300 and that you just calculated the amount spent on the location and food, select the entertainment choice or choices that your class can afford. Use the table below.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Amount Spent on Location and Food:</td> <td style="width: 50%; padding: 5px;">Cost: \$1587.50</td> </tr> <tr> <td style="height: 30px;"></td> <td></td> </tr> </table>		Amount Spent on Location and Food:	Cost: \$1587.50		
Amount Spent on Location and Food:	Cost: \$1587.50					

Evaluative Factor/Criteria for Presentation	Scoring Guidance	
	Amount Remaining for Entertainment:	Money Remaining: \$712.50
	Entertainment Choice(s):	Cost: Any option with a total under \$712.50_
	Total Cost:	Students answers may vary.