

## Welcome Back MYP Math 9!

### Self-assess:

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: <u>10-2</u> Topic: <u>Systems Quiz</u>	0 1 2 Friday	I began reviewing my notes for the upcoming unit test.
Tuesday Date: <u>10-3</u> Topic: <u>Systems of Equations Review</u>	0 1 2	I learned from my mistakes and practiced problems that were hard for me!
Wednesday Date: <u>10-4</u> Topic: <u>19D Problem Solving</u>	0 1 2	
Thursday Date: _____ Topic: _____	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

### Class Plan:

1. Warm-up
2. "Real Life Problem" Practice  
Criterion D Assessment
3. Joke break :)
4. Self-assess  
...compare with the key  
Unit 1 Test  
Friday, October 6th

## \*Choose Points

1. The table represents the time in minutes that students spend studying for a math test and the test score percentage.

Time spent studying for a math test (minutes)	5	50	30	25	12	45	20	60	10	75
Math test score (percentage)	10	75	55	40	35	60	40	90	25	95

## SOLUTION

IB MYP Math 9 Extended REVIEW

Name Key

(Quiz 1.1 Practice)

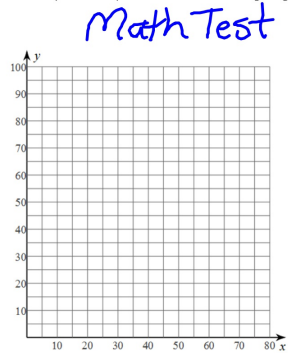
1. The table represents the time in minutes that students spend studying for a math test and the test score percentage.

x Time spent studying for a math test (minutes)	5	50	30	25	12	45	20	60	40	55	10	75
y Math test score (percentage)	10	75	55	40	35	60	40	90	55	77	25	95

(a) Use the axes below to plot **at least 6** points from the table. Don't forget to give it a title and label your axes!

## \*Plot Points for Line of Best Fit

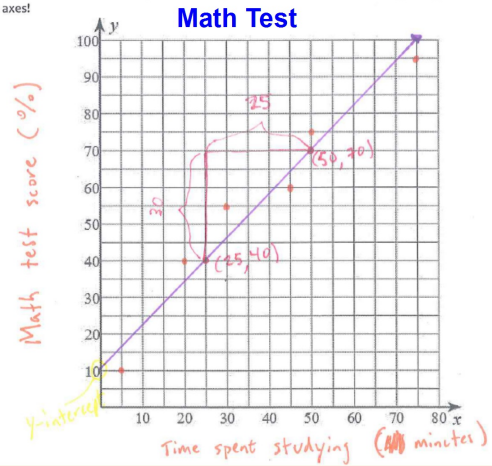
(a) Use the axes below to plot at least 6 points from the table. Don't forget to give it a title and label your axes!



(b) Estimate a "line of best fit" for your data points and draw it on your graph. Explain how you choose this line and justify why it is an appropriate choice.

## SOLUTION

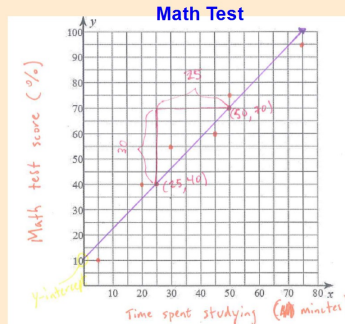
(a) Use the axes below to plot at least 6 points from the table. Don't forget to give it a title and label your axes!



## SOLUTION

(b) Estimate a "line of best fit" for your data points and draw it on your graph. Explain how you choose this line and justify why it is an appropriate choice.

It follows the general direction of the data and evenly splits the datapoints.



## \*Find the Slope/Gradient

6. (a) Using two points on the line of best fit, find the gradient (slope) of the line algebraically and with the gradient triangle. Explain what the gradient represents in this situation. What does it mean?

$$\begin{array}{cc} x & y \\ (10, 25) & (20, 40) \end{array}$$

$$m = \frac{25 - 40}{10 - 20} = \frac{-15}{-10} = \left(\frac{3}{2}\right)$$

$$(50, 75)$$

$$75 = \frac{3}{2}(50) + b$$

Every 2 min of study time, my % goes up by 3.

$$15 = \frac{11}{9}(10) + b$$

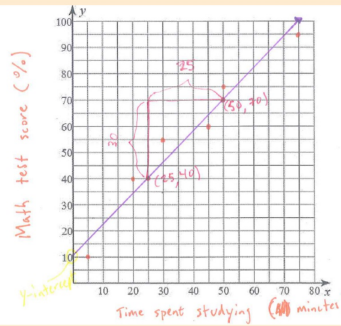
$$15 = \frac{110}{9} + b$$

## SOLUTION

6. (a) Using two points on the line of best fit, find the gradient (slope) of the line algebraically and with the gradient triangle. Explain what the gradient represents in this situation. What does it mean?

$$\begin{array}{cc} (25, 40) & \text{and} & (50, 70) \\ x_1, y_1 & & x_2, y_2 \end{array} \quad \frac{y_2 - y_1}{x_2 - x_1} = \frac{70 - 40}{50 - 25} = \frac{30}{25} = \boxed{\frac{6}{5}}$$

For every 5 minutes spent studying, the math test score rose by 6%.



## \*Solve for an equation

(b) Find the **y-intercept** and then **write an equation** for your line of best fit.

## SOLUTION

(b) Find the y-intercept and then write an equation for your line of best fit.

Graphically:  $b = 10$

Algebraically:  $y = \frac{6}{5}x + b$

$(25, 40)$

$$40 = \frac{6}{5}(25) + b$$

$$40 = 30 + b$$

$$10 = b$$

$$y = \frac{6}{5}x + 10$$

$$(5, 20) \quad 20 = 1(5) + b$$

$$20 = 5 + b$$

## \*Predict and Reflect on Realism

8.(a) Use your equation to predict the amount of time a student spent studying for the math test if they earned a 50% on the test.

Defend whether your prediction seems realistic.

## SOLUTION

8.(a) Use your equation to predict the amount of time a student spent studying for the math test if they earned a 50% on the test.

$(x, 50)$

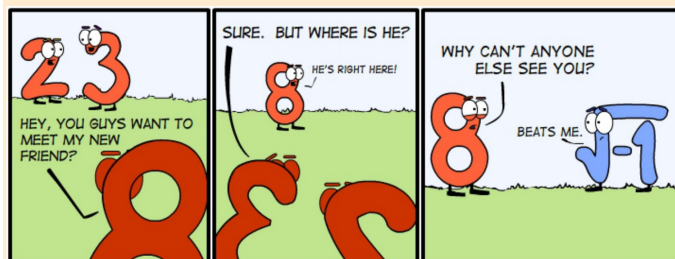
$$50 = \frac{6}{5}x + 10$$
$$\begin{array}{r} 50 \\ -10 \\ \hline 40 \end{array} = \frac{6}{5}x + 10 - 10$$
$$5(40) = \left(\frac{6}{5}x\right)5$$

$$\frac{200}{6} = \frac{6x}{6}$$
$$\cancel{6} = x$$
$$33\frac{1}{3} \text{ minutes} = x$$

Defend whether your prediction seems realistic.

This seems fairly realistic. A piece of data we were given says that 30 minutes of studying got a student a 55%, and students are all different, so some variation will occur.

## Joke break :)



$$i = \sqrt{-1} = ? \text{ imaginary}$$

## MYP Rubric: How much did you improve?

- 1) Compare key with your work.
- 2) Self-assess.

Done?  
Look over  
Quiz 1  
Exemplars

7	<ul style="list-style-type: none"> <li>• i. Identify the relevant elements of the authentic real-life situation</li> <li>• ii. select appropriate mathematical strategies to model the authentic real-life situation</li> <li>• iii. Apply the selected mathematical strategies to reach a correct solution to the authentic real-life situation</li> <li>• iv. justify the degree of accuracy of the solution</li> <li>• v. justify whether the solution makes sense in the context of the authentic real-life situation.</li> </ul>	<ul style="list-style-type: none"> <li>• Correct graph is titled with axes labeled.</li> <li>• Mathematical strategies are done <b>without error</b>.             <ul style="list-style-type: none"> <li>○ Line of Best Fit                 <ul style="list-style-type: none"> <li>▪ Justification provided and appropriate.</li> </ul> </li> <li>○ Gradient                 <ul style="list-style-type: none"> <li>▪ Both Algebraic Formula and Gradient Triangle</li> </ul> </li> <li>○ Linear Equation                 <ul style="list-style-type: none"> <li>▪ Y-intercept from the graph</li> <li>▪ Y-intercept from algebra (<math>\delta</math>)</li> </ul> </li> </ul> </li> <li>• Real-life interpretation of gradient and variables.</li> <li>• Prediction <b>without error</b> and reasonably defended.</li> <li>• Equation is verified <b>without error</b> and accuracy is defended.</li> <li>• Additional real life factors are considered and are reasonable.</li> </ul>
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