Instructions: Determine whether the function or your problem is Linear or Exponential. And provide the Equation of the function either way. Linear in **y =mx + b** form. Exponential**: y = a(b)x**

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| PROBLEM | YOUR RESPONSE | Your name |
| EXAMPLE: | It‘s Exponential. Multiplying By 3.  y = 1(3)x | Matheo X.  “Now next problem goes to student behind me” |
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| Now give back to teacher.  ☺ |  |  |

Determine whether the function or your problem is Linear or Exponential. And provide the Equation of the function either way. Linear in **y =mx + b** form. Exponential**: y = a(b)x**

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| PROBLEM | YOUR PROCESS & RESPONSE | Linear or Exponential  Include Equation, Name |
| EXAMPLE: | Hmmmm…. Where is 1, 2, 3, 4, ? ...  Starts at Zero. Ok. From 0 to 12 on the X, then the change on the y is 36….[ 38 – 2 ] ….  So slope is 36 over 12 = 3. ☺ Got it. | **Linear:**  Y = 3x + 0, or just y = 3x.  -Mathea Y. |
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| Now give back to teacher. ☺ |  |  |

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| **MODEL** | YOUR TURN A. START HERE. | GOES TO NEXT PERSON IN TEAM  Or returns to “first” student, then continues relay. |
| PROBLEM:    2x + 2y = 112  x = y – 4 | **PROBLEM:**  4X + 2Y = 1320  Y = -X + 380 | **Next** **PROBLEM:**  X – 20 = Y  3X + 11Y = 100 |
| SUBSTITUTE ISOLATED Equation, into other equation:  2( y – 4) + 2y = 112  Carlos | \*Calculator Allowed. | \*Calculator Allowed. |
| Next steps solve for y:  2y – 8 + 2y = 112  Diana | Next steps solve for x: | Next steps solve for x: |
| 4y – 8 = 112  Paco |  |  |
| 4y = 112 + 8  4y = 120 Liz |  |  |
| Y = 120/4    Y = 25. Carly |  |  |
| Now we’ll find x:  Using X = Y – 4 (given)  X = 25 – 4 = 21.  Final Answer: (21, 25)  Pedro |  |  |
|  |  | Give back to teacher.  ☺  When both problems solved. |

Check Solution: Check Solution: Check Solution:

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| EXEMPLAR: Solving by  **ELIMINATION** | YOUR TURN A. START HERE. | GOES TO NEXT PERSON IN TEAM  Or returns to “first” student, then continues relay. |
| PROBLEM:    2x + 2y = 12  x – 2y = 18 | **PROBLEM, YOUR TURN:**  7X – 3Y = 31  21X + 3Y = -3 | **5X + 2Y = 10**  **4X + 3Y = 15** |
| Goal: Add Equations Vertically, Eliminate one Variable:  2x + 2y = 12  x – 2y = 18 + |  | Hint: Multiply top Equation, times -3,  And bottom equation by 2:  (**5X + 2Y = 10** ) – 3  (**4X + 3Y = 15** ) 2 |
| The Y’s are same number opposite, so they cancel. Left with:  3x = 30 |  | System turns into:    -15x – 6y = - 30  8x + 6y = 30 |
| Solve for x:  X = 30/3  X = 10 |  | Now we can add them Vertically:  15x – 6y = - 30  + 8x + 6y = 30 |
| Now find other variable,  Y in this case.  Choose either Equation from beginning system, and substitute value found:  🡪 2x + 2y = 12  Becomes: 2(10) + 2y = 12 |  | Outcome:  23x = 0  So x = 0  Now you find the value of y. |
| 2(10) + 2y = 12  20 + 2y = 12  Now Isolate y (in 2 steps): |  |
| 2y = 12 – 20  2y = -8  y = -8 /2  y = - 4 |  | Answer:  The point (0, \_\_) is where the  Two lines \_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

Check Solution: Check Solution: Check Solution:

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| Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** | Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** | Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** |
| PROBLEM Given by Teacher, first or next student copies it here: | PROBLEM Given by Teacher: | PROBLEM Given by Teacher: |
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| X = \_\_\_\_\_ Y = \_\_\_\_\_ |  |  |

Next student checks answers down here. Accordingly:

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| Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** | Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** | Solve by **ELIMINATION, or Substitution.**  **Work Downwards. ☺** |
| PROBLEM Given by Teacher, first or next student copies it here: | PROBLEM Given by Teacher: | PROBLEM Given by Teacher: |
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| X = \_\_\_\_\_ Y = \_\_\_\_\_ |  |  |

Checks answers down here. Accordingly:

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| **Your Name:** |  |
| PROBLEM:  2x + 2y = 112  x = y – 4 | **WARM UP (rounds 1)**  **EXPLAIN EACH STEP BELOW, then check answers.** |
| 2( y – 4) + 2y = 112 |  |
| 2y – 8 + 2y = 112 |  |
| 4y – 8 = 112 |  |
| 4y = 112 + 8  4y = 120 |  |
| Y = 120/4    Y = 25 |  |
| X = Y – 4  X = 25 – 4 = 21.  Final Answer: (21, 25) |  |
| **Check Answers:**  **‘Top Equation”** | **Check Answers:**  **‘Bottom Equation”** |

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| EXEMPLAR: Solving by  **ELIMINATION** | Your Name: |
| PROBLEM:    2x + 2y = 12  x – 2y = 18 | **WARM UP (rounds 2). Will change seats to prepare for “Round Robin” Activity.**  **EXPLAIN EACH STEP BELOW, then check answers.** |
| 2x + 2y = 12  x – 2y = 18 + |  |
| 3x = 30 |  |
| X = 30/3  X = 10 |  |
| 🡪 2x + 2y = 12  2(10) + 2y = 12 |  |
| 2(10) + 2y = 12  20 + 2y = 12 |  |
| 2y = 12 – 20  2y = -8  y = -8 /2  y = - 4 |  |
| **Check Answers:**  **‘Top Equation”** | **Check Answers:**  **‘Bottom Equation”** |