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|  |  | **Number Systems** |  |

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| **Your Tasks (Mark these off as you go)** |
| * Assign group roles * Brainstorm: How many ways can we represent 7 * Investigate 3 place patterns * Organize your patterns in a predictable sequence * Explain your number system * Test your number system * Receive credit for the group portion of this lab |

* **Brainstorm: How many ways can we represent 7**
* Think about the different ways you can represent the number 7
* Write your ideas below

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* **Investigate 3 place patterns**
* Given 3 places to work with, make as many *unique* patterns as you can using only circles, triangles and squares. Arrange your patterns on your desk.
* The diagram on the right shows a few examples of some 3-place patterns. *NOTE: Order matters, so, for example: Circle-Triangle-Square is a different pattern than Square-Circle-Triangle, even though both have one of each shape.*
* How many 3 place patterns did you find?

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* **Have Ms. Pluska check off 3 place patterns**



Before you continue have Ms. Pluska check off 3 place patterns

Do not continue until you have Ms. Pluska’s (or her designated TA’s) signature \_\_\_\_\_\_\_\_\_\_\_\_

* **Organize your patterns in a predictable sequence**
* Once you have found as many patterns as possible, figure out a way to order your patterns so that the sequence is predictable.
* Record your sequenced 3-place patterns below (NOTE: you do not need to record every pattern, just enough to show a predictable pattern.)

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* **Explain your number system**
* In the space below explain your development process. Your explaination should be thorough and be written in a narrative format using complete sentences, correct spelling, and proper grammar.
  + How many unique patterns were you able to find?
* How did you develop predictable sequence for your patterns?

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* **Have Ms. Pluska check off Explain your number system**



Before you continue have Ms. Pluska check off Explain your number system

Do not continue until you have Ms. Pluska’s (or her designated TA’s) signature \_\_\_\_\_\_\_\_\_\_\_\_

* **Test your number system**
* Indicate how your number system could be used to represent the following quantities.

|  |  |
| --- | --- |
| 30 |  |
| 41 |  |
| 100 |  |
| 200 |  |
| 1028 |  |

* **Receive Credit for the group portion of this lab**



* Indicate the names of all group members.
* Have Ms. Pluska check your Number Systems lab.
* Submit your lab to the needs to be graded folder to receive credit for the group portion of this lab.

Do not submit your lab until you have Ms. Pluska’s (or her designated TA’s) signature \_\_\_\_\_\_\_