**SCRATCH Project 5 Experiment with Circles Page 1**

To draw a circle, you take 1 step, turn 1 degree and repeat 360 times.

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| 1) Choose the "xy-grid" backdrop to help you compare your circles | 2) Set up a basic script to clear the stage and position the cat in the center | 3) Now add the code to draw the circle: |
| 4) This takes a long time to draw. Try taking fewer steps and move & turn more on each step. Figure out which numbers go in the blanks. What numbers go here? | 5) This is still pretty slow, try taking even fewer steps.What numbers go here? | 6) And even fewer…What numbers go here? |
| 7) NOW use a repeat within a repeat to make this design with circles: | Figure out what numbers to use. |

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| **DRAW A CIRCLE AND DIVIDE IT INTO EQUAL SECTORS**

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| Move out of the waySensingDraw the linesEventsSensingDraw the circleMotionMotionControlMotionPen |

 | 1) What happens if they enter zero? Since you can't divide by zero, you need to send a message. Where should you put this?OperatorLooksControlControl2) What happens if they enter 1? The circle is already one piece, so you need to send a message.Change the code above and add it as well. "Scratch is developed by the Lifelong Kindergarten Group at the MIT Media Lab. See http://scratch.mit.edu". |