**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**   |  | | --- | | Move out of the way  Sensing  Draw the lines  Events  Sensing  Draw the circle  Motion  Motion  Control  Motion  Pen | | 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?  Operator    Looks  Control  Control  2) 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". |