Name _____

CPADS Lab Activity #1

Possible instructions

pu():   Pen Up – does not draw while moving
pd():   Pen Down – will draw when moving
fd(x):   Forward – move forward *x* units ('-' moves backwards)
rt(x):   Right turn – turn right *x* # of degrees (no movement or drawing)
lt(x):   Left turn – turn left *x* # of degrees (no movement or drawing)

Examples:

To move forward 1 unit:	**fd(1)**
To move backward 2 units:	**fd(-2)**
To turn right 60 degrees:	**rt(60)**

1. Draw the output of the following code. Number the line segments in the order they are drawn and indicate the final position and orientation of the cursor.

pu( )
fd(-1)
rt(90)
fd(1)
lt(90)
pd( )
fd(2)
lt(90)
fd(2)
lt(90)
fd(2)
lt(90)
fd(2)
lt(90)
pu( )
fd(1)
lt(90)
fd(1)
rt(90)
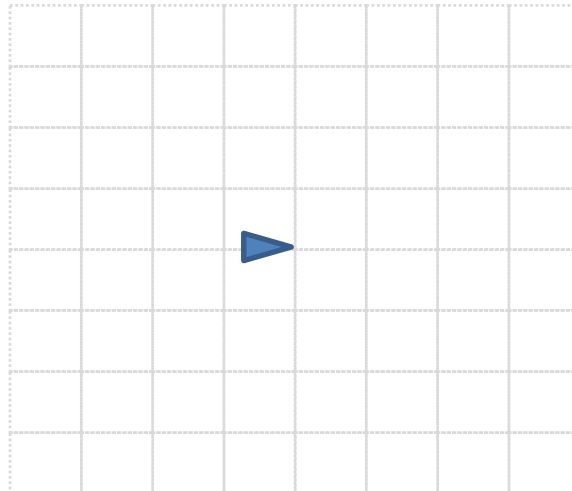
Name _____

2. Create a **drawSquareFromCenter(x)** instruction that draws a square with sides of length *x* *centered* about the cursor's position. The cursor must be repositioned back to its starting location. Note: You may **NOT** assume that the pen is down when the function is called and you must pick the pen up at the end of the function.

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3. Write two sequences of instructions using **drawSquareFromCenter(x)** to construct the following layer cake figure *assuming the cursor begins as shown* to celebrate your success on problems 1 and 2! The layers are sizes 1, 2, 3, and 4 and centered on each other. You do not need to worry about where the cursor ends up once the figure is drawn.

Hint: Consider how the cursor must move in between drawing each layer.