

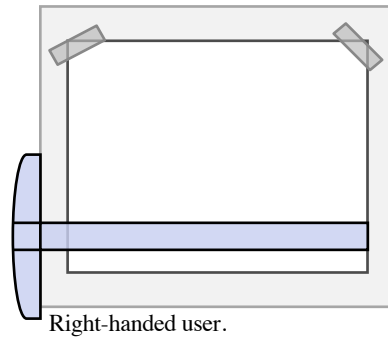
Drawing Board Geometry

- To apply previously learned arithmetic.
- To attend to precision.
- To persevere in problem solving.
- To learn that mathematics is more than computation.
- To appreciate geometry.
- To discover beauty in mathematics.
- To enjoy mathematics.

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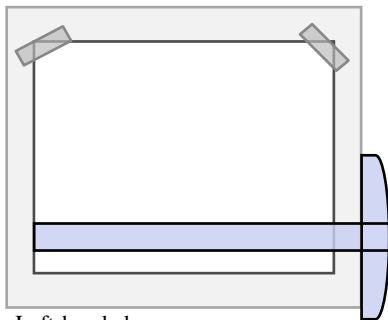
Drawing Tools



Right-handed user.

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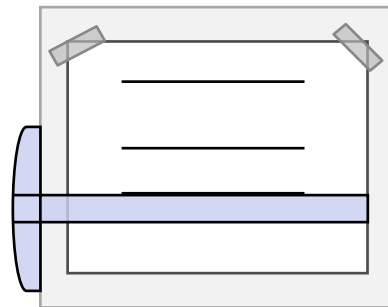
Drawing Tools



Left-handed user.

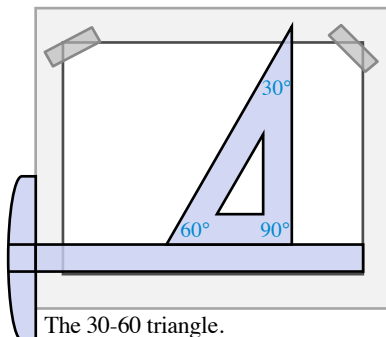
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Drawing Tools



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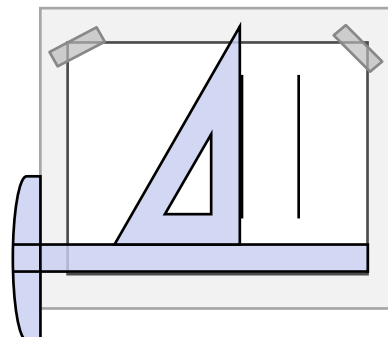
Drawing Tools



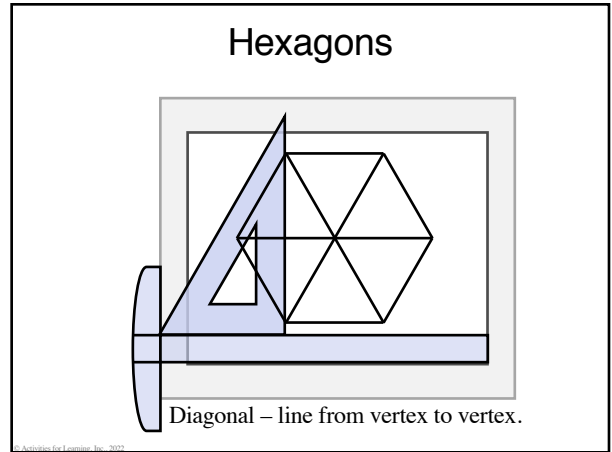
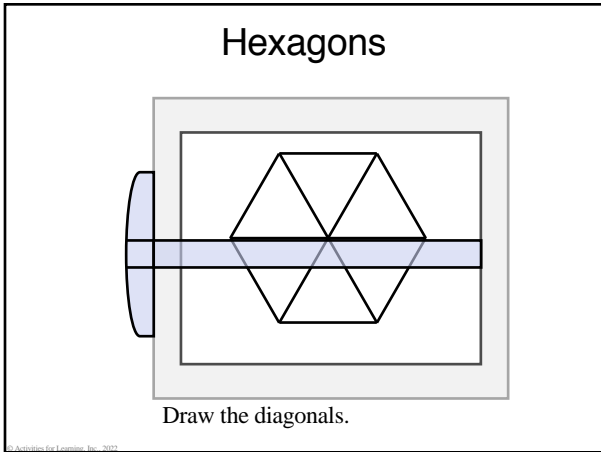
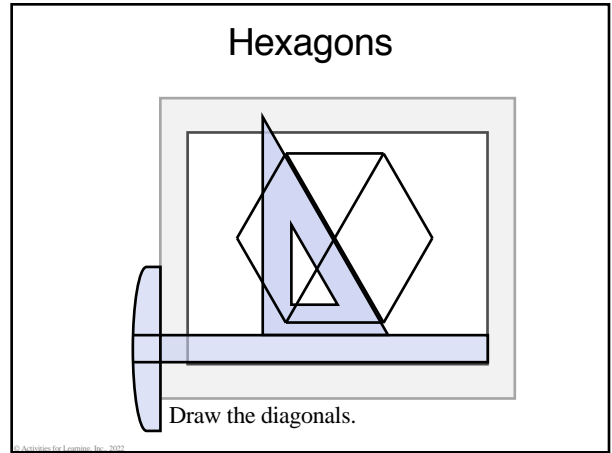
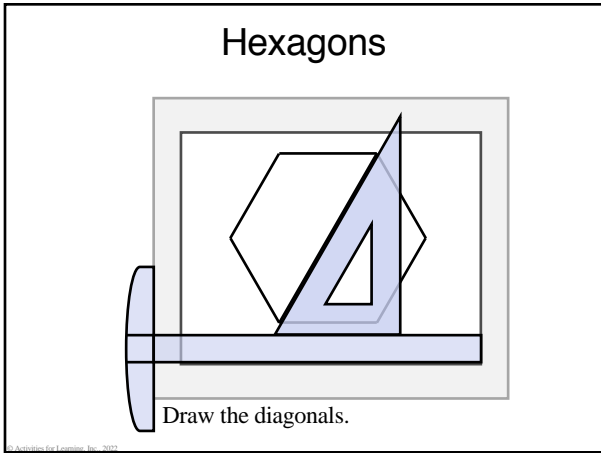
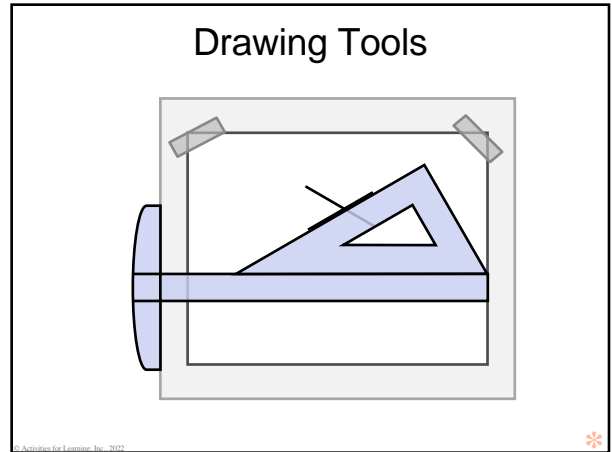
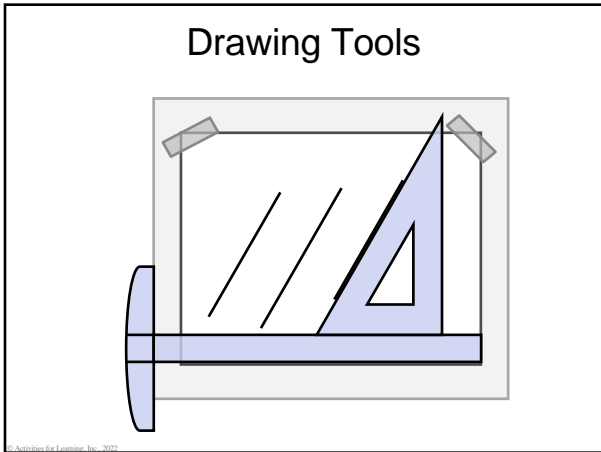
The 30-60 triangle.

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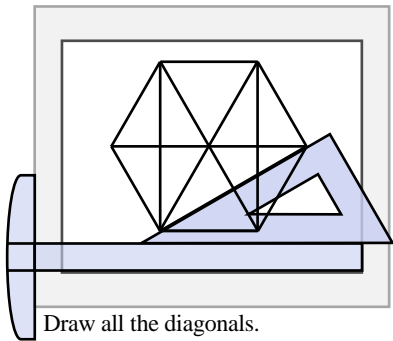
Drawing Tools



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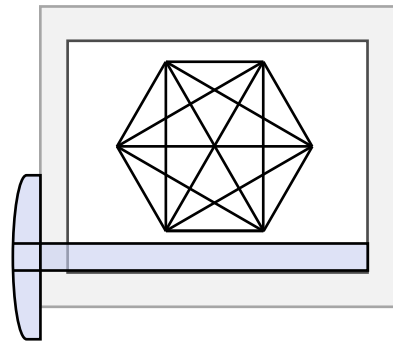


Hexagons

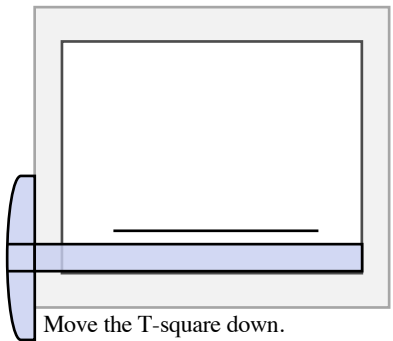


Draw all the diagonals.

Hexagons

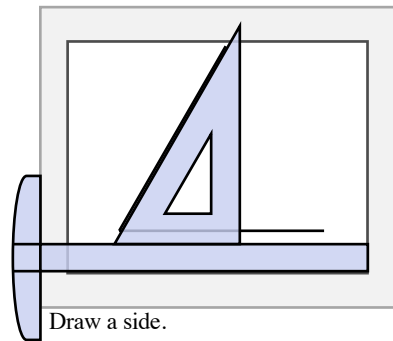


Equilateral Triangles



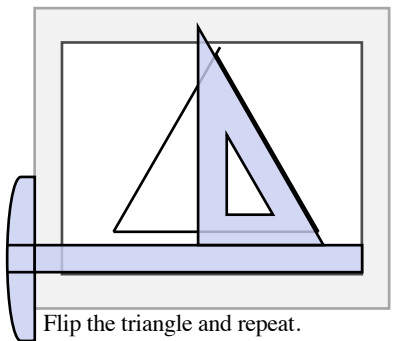
Move the T-square down.

Equilateral Triangles



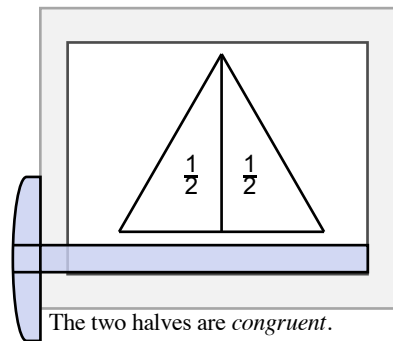
Draw a side.

Equilateral Triangles



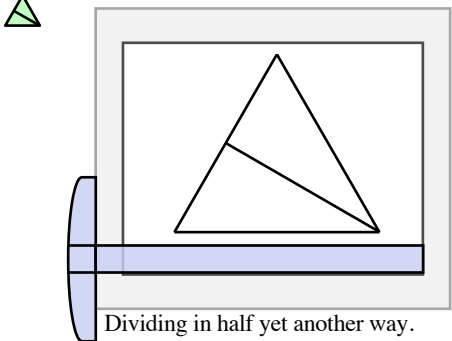
Flip the triangle and repeat.

Equilateral Triangle in Half



The two halves are *congruent*.

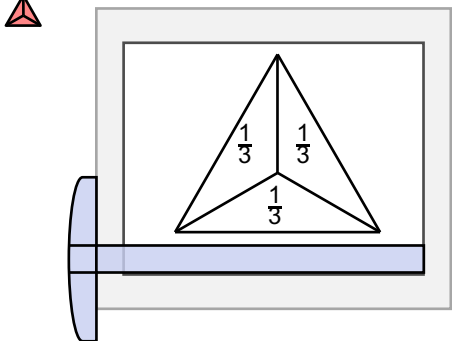
Equilateral Triangle in Half



Dividing in half yet another way.

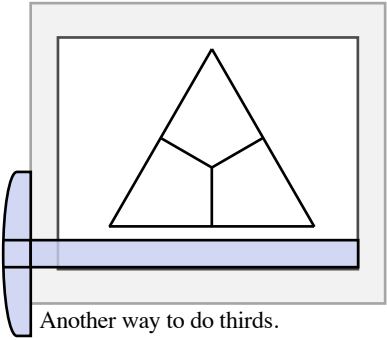
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Equilateral Triangle in Thirds



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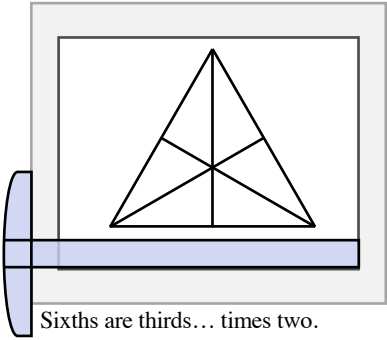
Equilateral Triangle in Thirds



Another way to do thirds.

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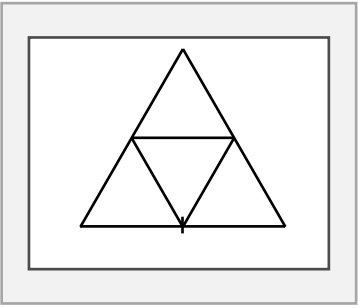
Equilateral Triangle in Sixths



Sixths are thirds... times two.

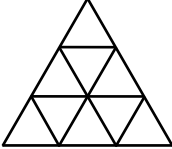
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Equilateral Triangle in Fourths



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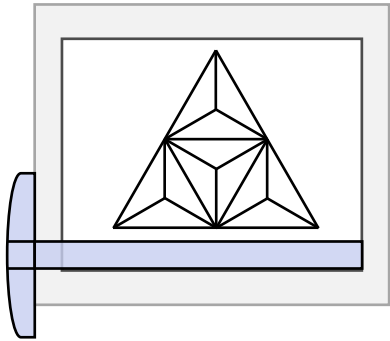
Equilateral Triangle in Ninths



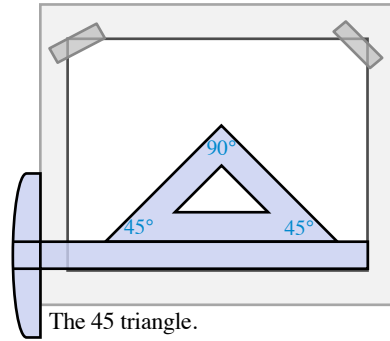
Row Number	Row Number $\times 2$	Triangles in the Row
1	2	1
2	4	3
3	6	5
4	8	7
5	10	9
6	12	11
10	20	19
n	$2n$	$2n - 1$

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Equilateral Triangle in Twelfths

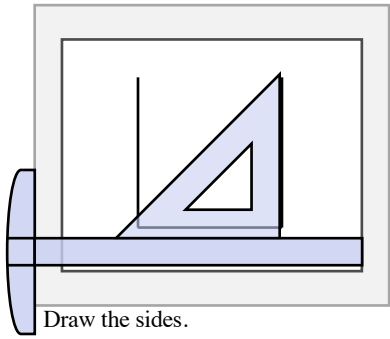


Squares



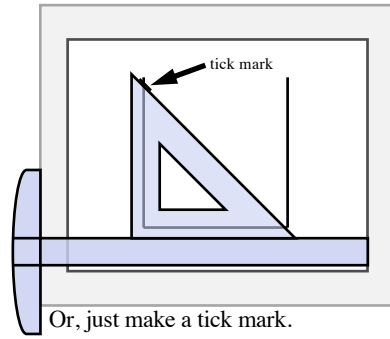
The 45 triangle.

Squares



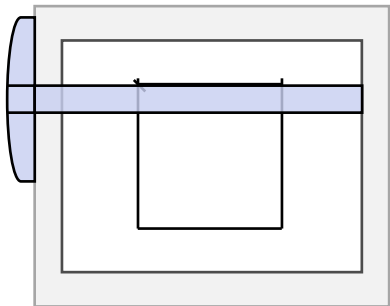
Draw the sides.

Squares



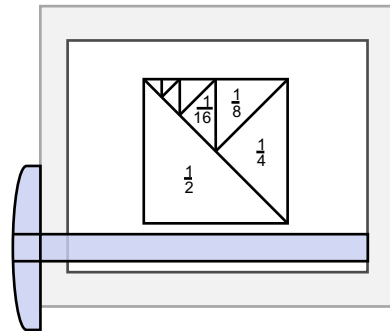
Or, just make a tick mark.

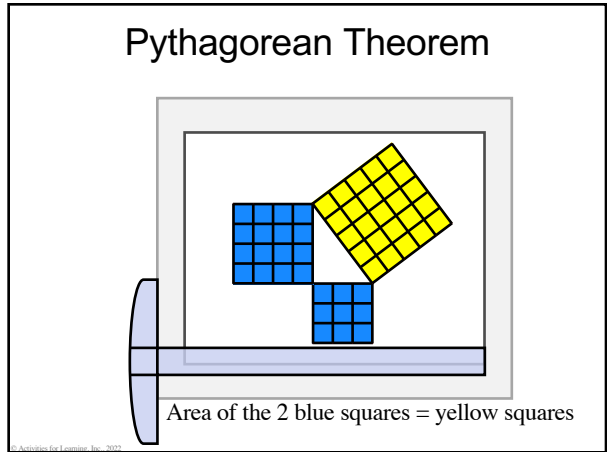
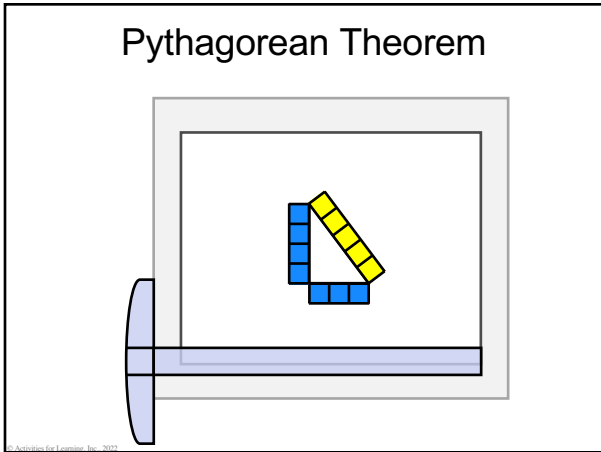
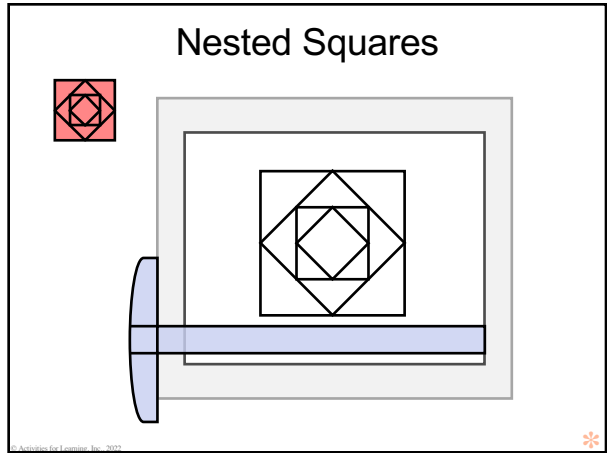
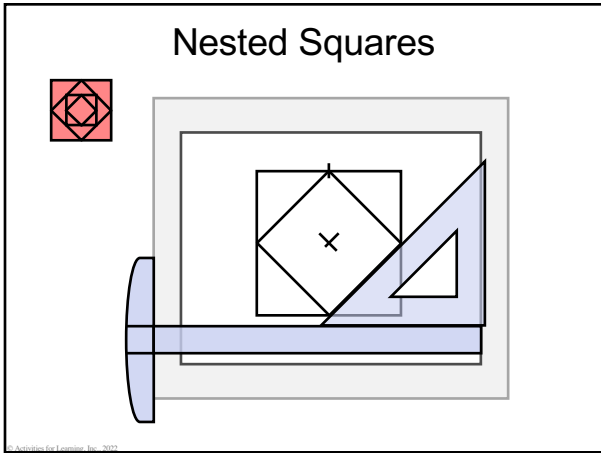
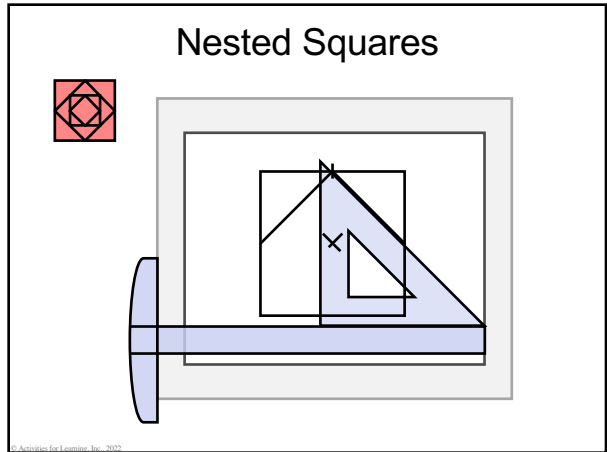
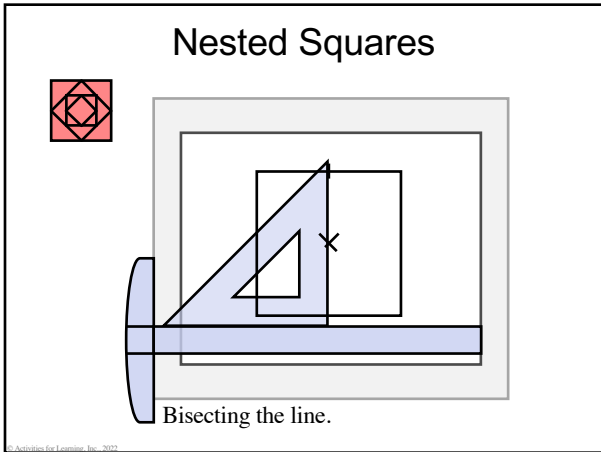
Squares



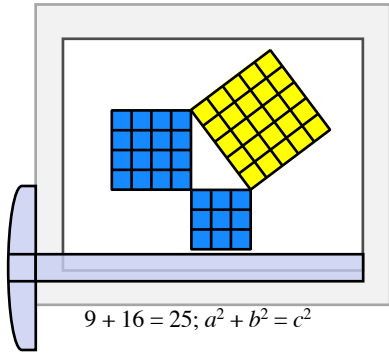
Draw the top line.

Squares: Halves of Halves

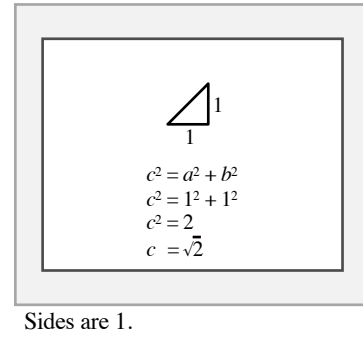




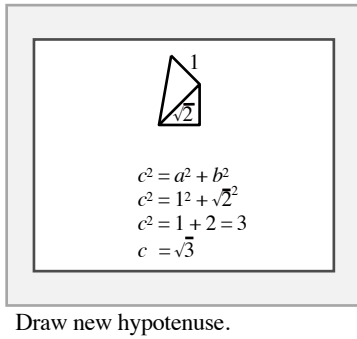
Pythagorean Theorem



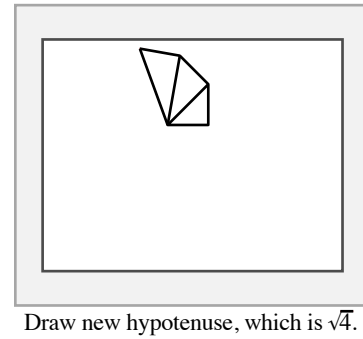
Square Root Spiral



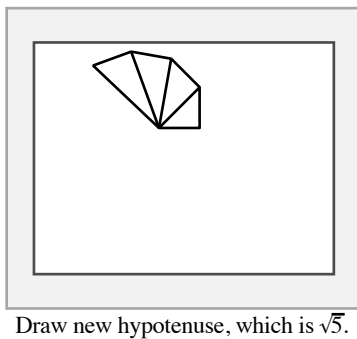
Square Root Spiral



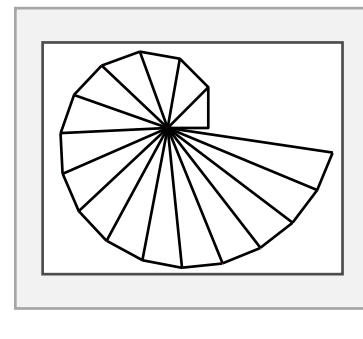
Square Root Spiral



Square Root Spiral



Square Root Spiral



Square Root Spiral

Combine two spirals.

Square Root Spiral

Combine two spirals.

Square Root Spiral

Combine two spirals.

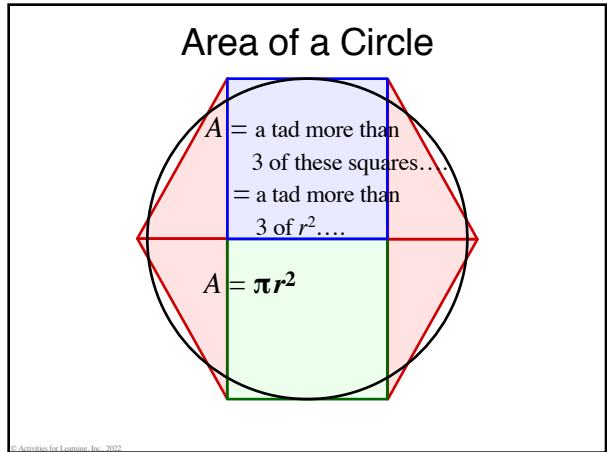
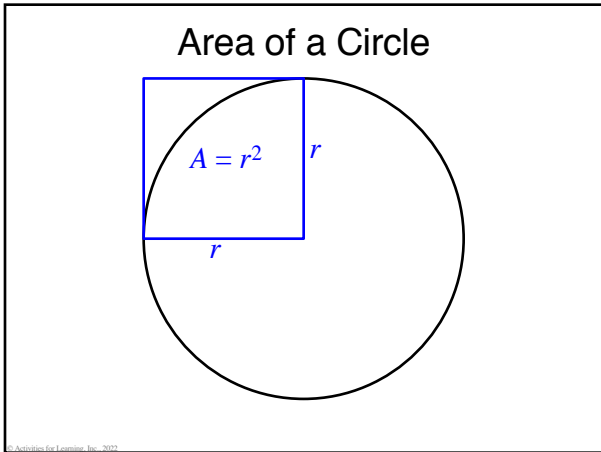
Square Root Spiral

Combine two spirals.

Square Root Spiral

Combine two spirals.

Area of a Circle



In Conclusion ...

Math needs to be taught so
95 percent is understood and
only 5 percent memorized.

Richard Skemp
-- major pioneer in
mathematics education

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In Conclusion ...

Our goal as a teacher of mathematics
is to help our children transform,
expand, and refine these beginning ideas
into deeper mathematical thinking.

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