Name: _____ Date: Jan 7 Hour: Alg 1

Unit 5a Day 1: Area of Squares

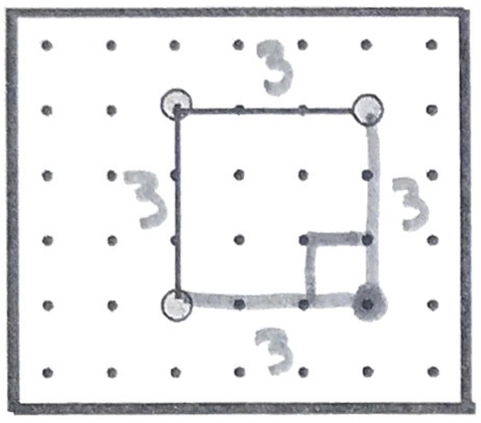
Focus Question: How can I find the area of a square?

A. Making Squares on a Grid

1. What are the two requirements to be a square?

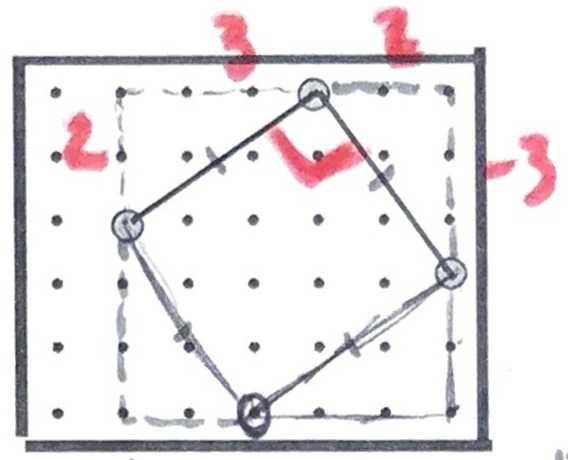
(a) 4 equal sides (rhombus) (b) 4 right angles (rectangle)

2. Three points are given and connected to make two sides of a square. Place the fourth dot on the grid to complete the square.



(a) count! all lengths are 3!

(b) sides are vertical & horizontal (always perpendicular) ⊥



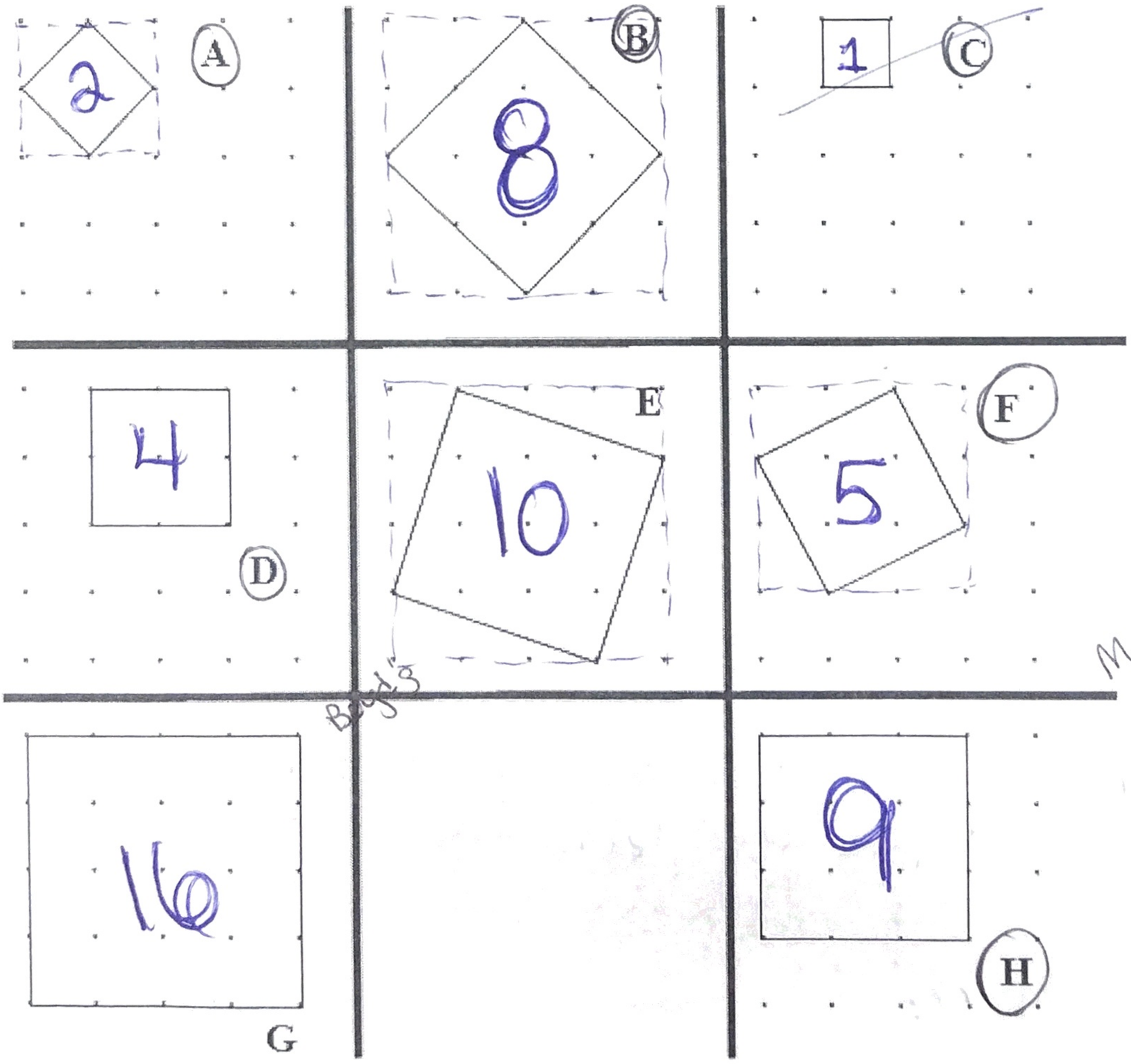
a) 4 identical triangles surround it

b) slope $\frac{2}{3}$ & $\frac{-3}{2}$ are opp. recip. so ⊥ lines

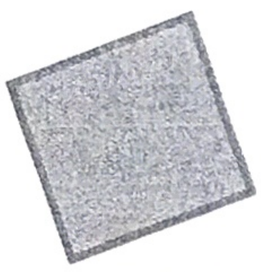
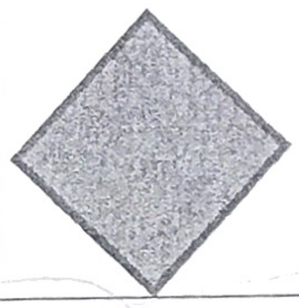
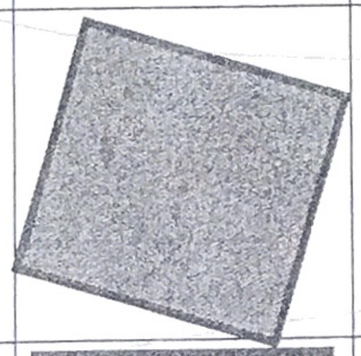
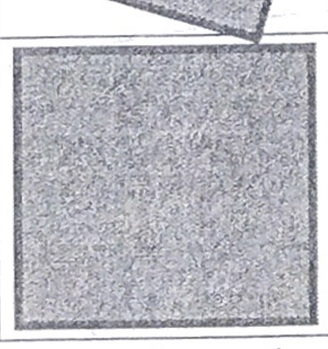
3. Prove each shape above is a square.

B: Find the area of each square below.

Julio's



C. Put the squares in order from **smallest to largest:**

Letter of Square	Sketch	Area	Side length **(if known)**	How side length and area are related…
C		1	1	1 = 1 ~~A = S~~ 1 · 1 = 1 S · S = A
A		2	?	?
D		4	2	~~A = S~~ 2 · 2 = 4 S · S = A
F		5	?	?
B		8	?	?
H		9	3	3 · 3 = 9 S · S = A $S^2 = A$
E		10	?	?
G		16	4	$4^2 = 16$ 4 · 4 = 16 $S^2 = A$

Make some observations about the squares that have the entire row filled in….

- sides are vertical & horizontal on a grid
- you can count all the lengths
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These squares are called perfect squares because their side lengths are countable numbers and they are not tilted when drawn on a grid.