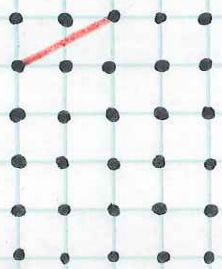
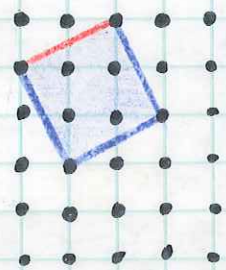
2.3: Using Squares to Find Lengths

Focus Question: "How can you find the distance between any two points on a grid?"

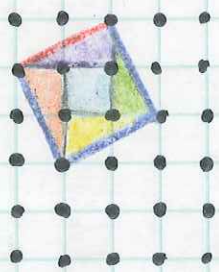
$\sqrt{\ }$ → This symbol is a square root symbol. It is a radical.



You can find the length of any segment by creating a square. → Use the segment as one of the sides.



Use the area of the square to determine the side length.



 = 1 unit

 = 1 unit

4 triangles and 1 square : $4+1=5$

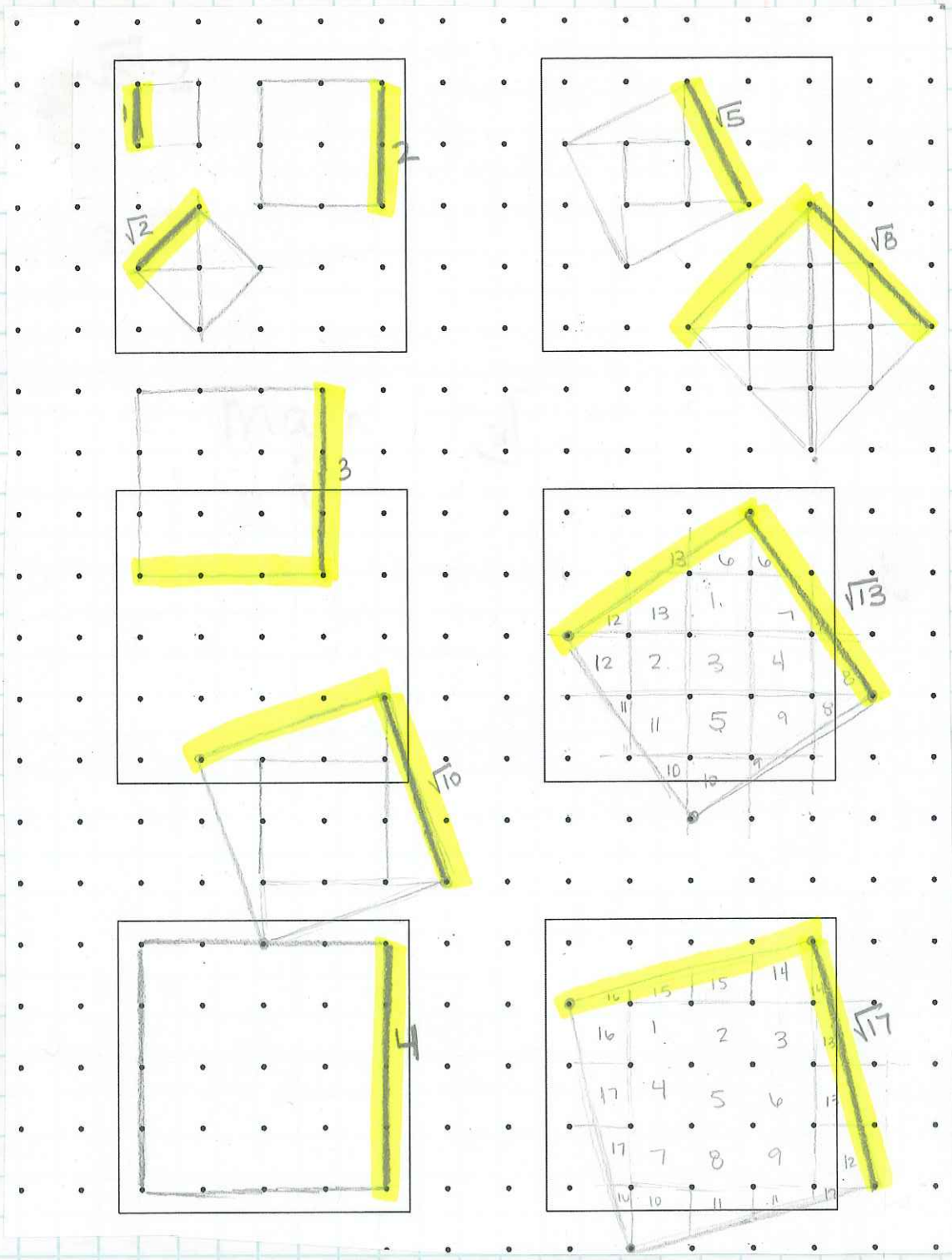
The area is 5 units^2.

Since a side × side = area, a side × side = 5.

side × side = side^2. If side^2 = 5, then a side is $\sqrt{5}$ units.

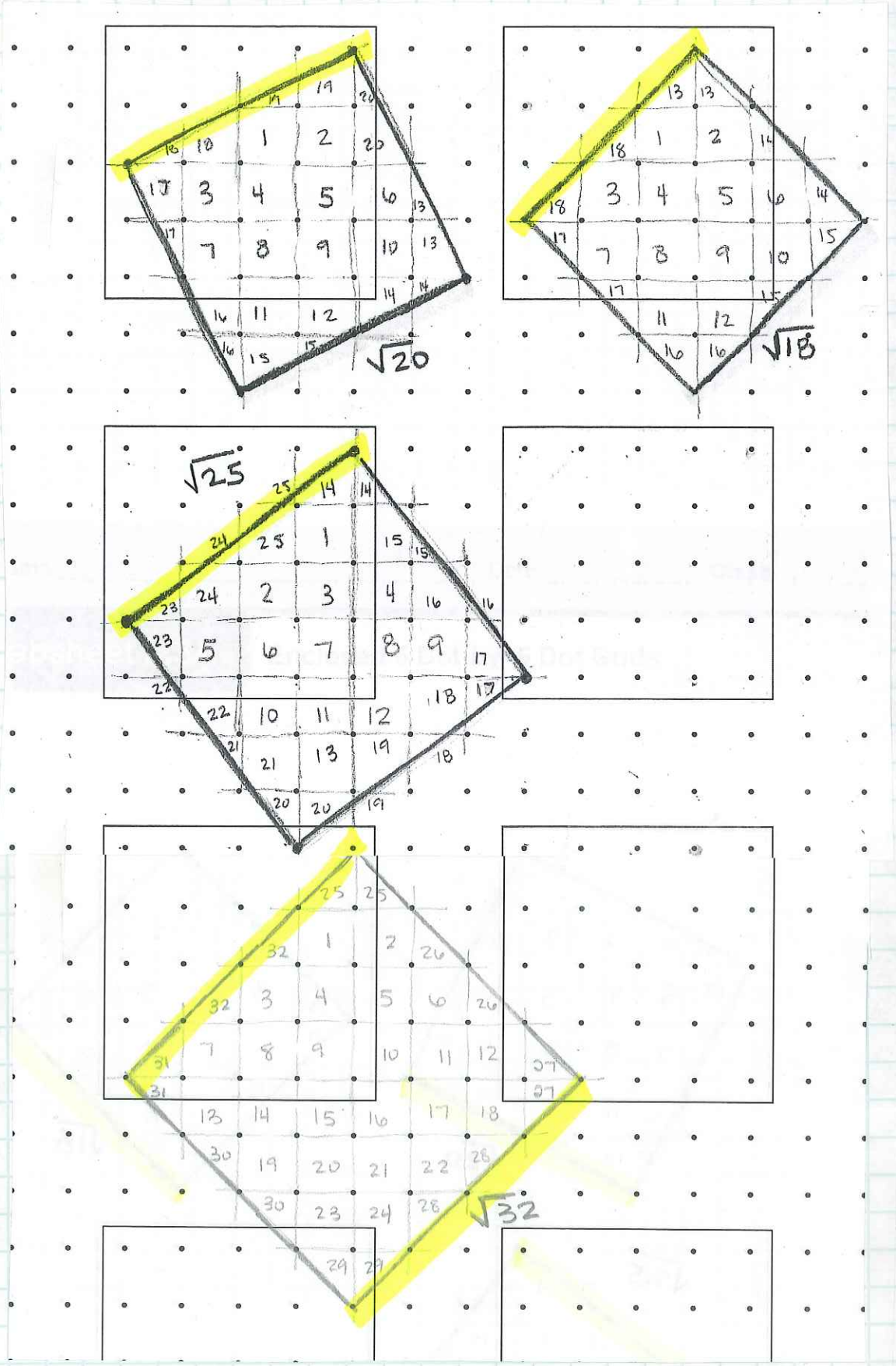
The segment length is $\sqrt{5}$ units.

2.3 (A) 1.



2.3 (A) 1.

continued



2.3 (A) 2 and 3:

Area	1	2	4	5	8	9	10	13	16	17	18	20	25	32
Side Length	1	$\sqrt{2}$	2	$\sqrt{5}$	$\sqrt{8}$	3	$\sqrt{10}$	$\sqrt{13}$	4	$\sqrt{17}$	$\sqrt{18}$	$\sqrt{20}$	5	$\sqrt{32}$
Side Length in Decimal (nearest tenth)	1.0	1.4	2.0	2.2	2.8	3.0	3.2	3.6	4.0	4.1	4.2	4.5	5.0	5.7

(A) 4. Possible Answer:

- Pharmacists usually need a higher level of accuracy than one decimal place