1 - If 5 islands are connected by bridges, with every island connected to all of the other ones exactly once, how many bridges are there? (**Hint**: try drawing a picture)

2 - If 10 dragons go to dungeon party and all shake tails exactly once, how many "tailshakes" are there? (These dragons greet each other by shaking their tails just like humans shake their hands.)

(**Hint**: there's a trick called 'multiplication' that you probably won't learn until 2nd or 3rd grade, but try to think of a general solution for how you would answer this question if there were 15 or 20 or even more dragons)

3 - Make rectangles in the diagrams below with vertical and horizontal lines. Use the dots as corners. How many rectangles do you see? (Hint: All squares ARE rectangles, but not all rectangles are squares)
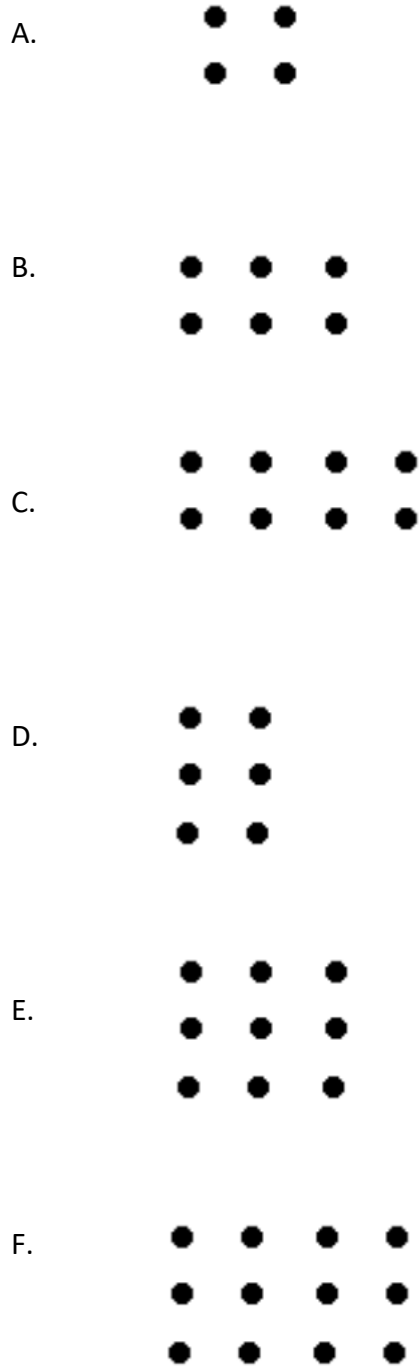
Dimensions	Number of Rectangles
2 by 2	
2 by 3	
2 by 4	
3 by 2	
3 by 3	
3 by 4	

A.

B.

C.

D.

E.

F.