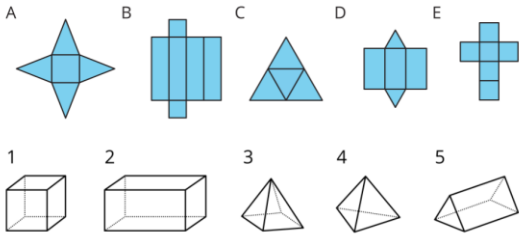
PROBLEM SET – 3D Geometry and Nets
Mr. Peralta, Class 622 and 623

Important Problems

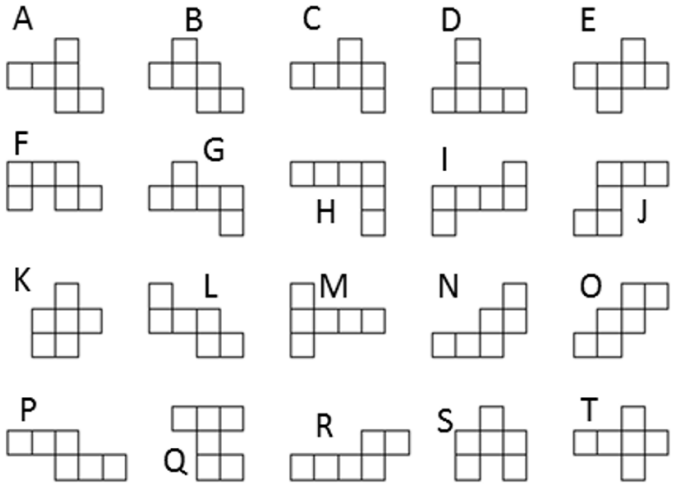
1. Match each net with its corresponding polyhedron and identify the number of faces, edges, and vertices and the name of the polyhedron.



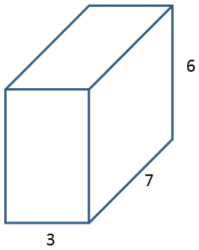
Net	A	B	C	D	E
Polyhedron #					
Polyhedron Name					
# of Faces					
# of Edges					
# of Vertices					

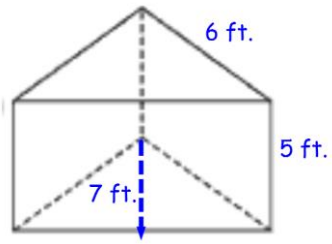
2. Draw the nets of each shape below. The nets should be different than those shown in question 1.

3. Select the nets that can be folded into a cube.



4. Draw the net of each polyhedron below. Label the length and width of each individual face and find the area of each face.

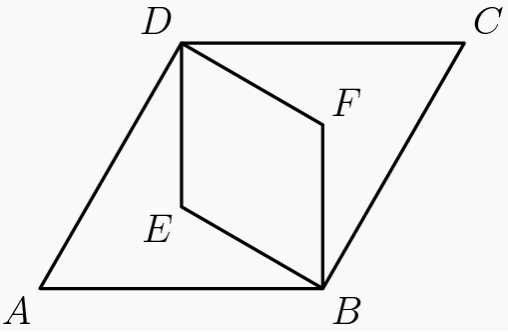




Challenge Questions

1. A 2×3 rectangle and a 3×4 rectangle are contained within a square without overlapping at any point, and the sides of the square are parallel to the sides of the two given rectangles. What is the smallest possible area of the square?

2. Rhombus $ABCD$ is similar to rhombus $BFDE$. The area of rhombus $ABCD$ is 24 and $\angle BAD = 60^\circ$. What is the area of rhombus $BFDE$?



3. Leap Day, February 29, 2004, occurred on a Sunday. On what day of the week will Leap Day, February 29, 2020, occur?

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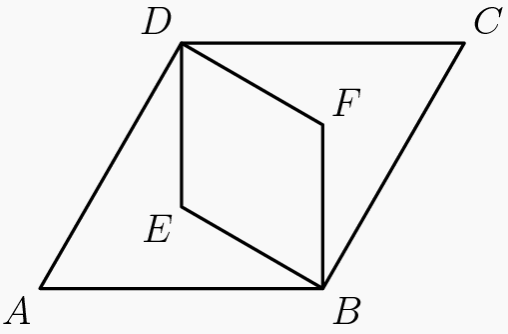

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3. Leap Day, February 29, 2004, occurred on a Sunday. On what day of the week will Leap Day, February 29, 2020, occur? Saturday