Nets and Drawing for Visualizing Geometry Guided Notes

1. What properties are common to all nets that will form a cube?

[All acceptable nets have six squares and 14 sides.]

2. What type of nets will not work? Why not?

[Nets with more or fewer than six squares will not work. In addition, many nets with six squares cause two squares to overlap. Obvious cases of this are when four squares share a vertex; when two squares lie on the same side of a center row of squares; and when more than four squares occur in a row.]

3. Without folding, is there a quick way to determine whether or not a net will fold into a cube?

[If a net suffers from any of the problems noted above, it will not form a cube, and these problems can be determined by visual inspection.]

4. How can you determine if two nets are identical?

[One of the nets will fit exactly on top of another net when flipped or rotated.]

5. What sort of properties does your final cube have? How do these compare to the properties of the nets?

[The surface area of the cube is equal to the area of the net. The cube has 12 edges, while each net has 14 sides.]

GeometryCoach.com