Pattern-Matching Questions

- In pattern-matching questions, the faces of the cutout lack:
  - Unique sizes and shapes
  - Shaded faces
- Instead, you must match the connectivity of patterns on the faces of the cutout
  - These generally come in the form of dice questions

Misplaced Dots

The dot pattern on the “3” side of choice (c) does not conform to the same pattern displayed in the cutout. Choice (c) is therefore wrong.

Non-Adjacent Sides

- Next, identify the 3 pairs of sides that are not adjacent to one another
- For this die, they would be the:
  - 1 and 6
  - 2 and 3
  - 4 and 5
The “Golden” Faces
Each time we rotate these faces by 90°, their dot patterns end up looking the same

- When we fold up the die, we need not worry about the orientation of these “golden” faces
  - No matter how they are rotated, they will display correctly
- The 2, 3 and 6 do not exhibit radial symmetry
  - When rotated by 90°, their dot patterns oscillate between two forms

Orientation of the “3” Side
In the cutout, the dots of the “3” side form a line pointing to the vertex of the 1, 3, and 5 sides. But in answer choice (b), the dots of the “3” side point elsewhere. Choice (b) is therefore wrong.

- Via process of elimination, choice (d) is correct

Flipping the Die
- You can flip the die in your head by:
  - Swapping the top and bottom faces
  - Reflecting the 2 front faces over their shared edge

Shortcoming of this technique: it’s difficult to anticipate the rotational configuration of the new top face.
- In this case, the new top face was “1”
- Since the “1” face has radial symmetry, we need not worry about its rotated configuration
Process of Elimination Trick

- It’s a good idea to keep track of the answers you’ve ruled out, so you don’t accidentally revisit them.
- On question 1, write out the letters A through E on your scrap, as shown:

A B C D E

- As you rule out answer choices, put a backslash through them:

\[
\not A \not B \not C \not D \not E
\]

- On the next question, recycle...