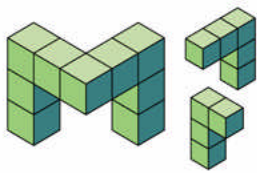


The Impossible Puzzles from Escher Interactive

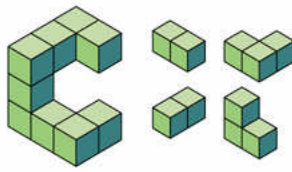
By Scott Kim

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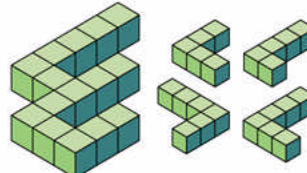
- 2 Windows demo of the Impossible Puzzles
 - 3 Animation of Escher's Name
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 - 7 Paper versions of the Impossible Puzzles which you can play without a computer
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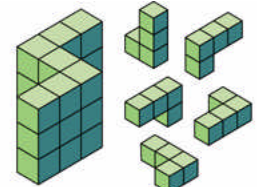
1. The Letter M



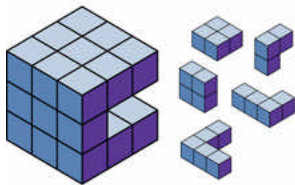
2. The Letter C



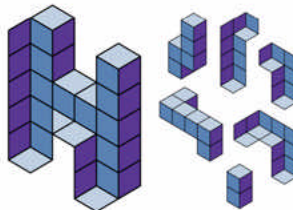
3. The Letter E



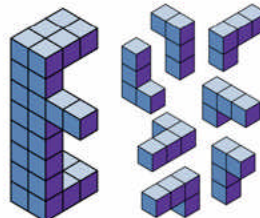
4. The Letter S



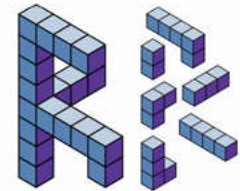
5. The Letter C



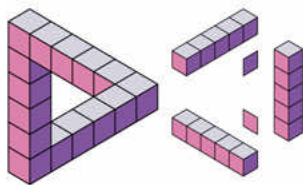
6. The Letter H



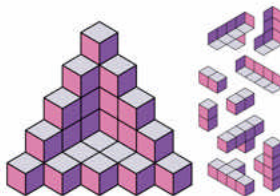
7. The Letter E



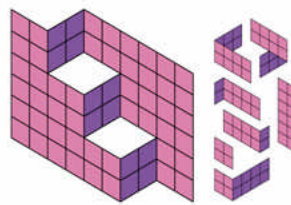
8. The Letter R



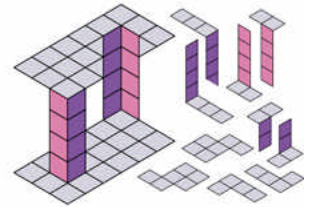
9. Impossible Triangle



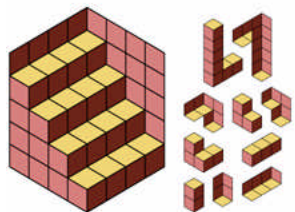
10. Relativity



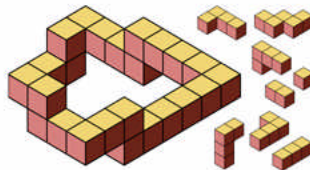
11. Dragon



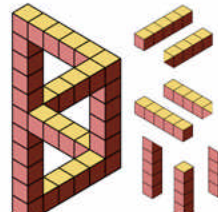
12. Columns



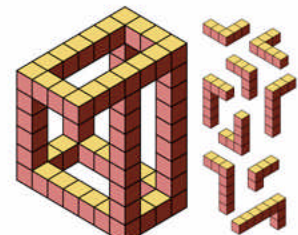
13. Staircase



14. Ascending



15. Waterfall



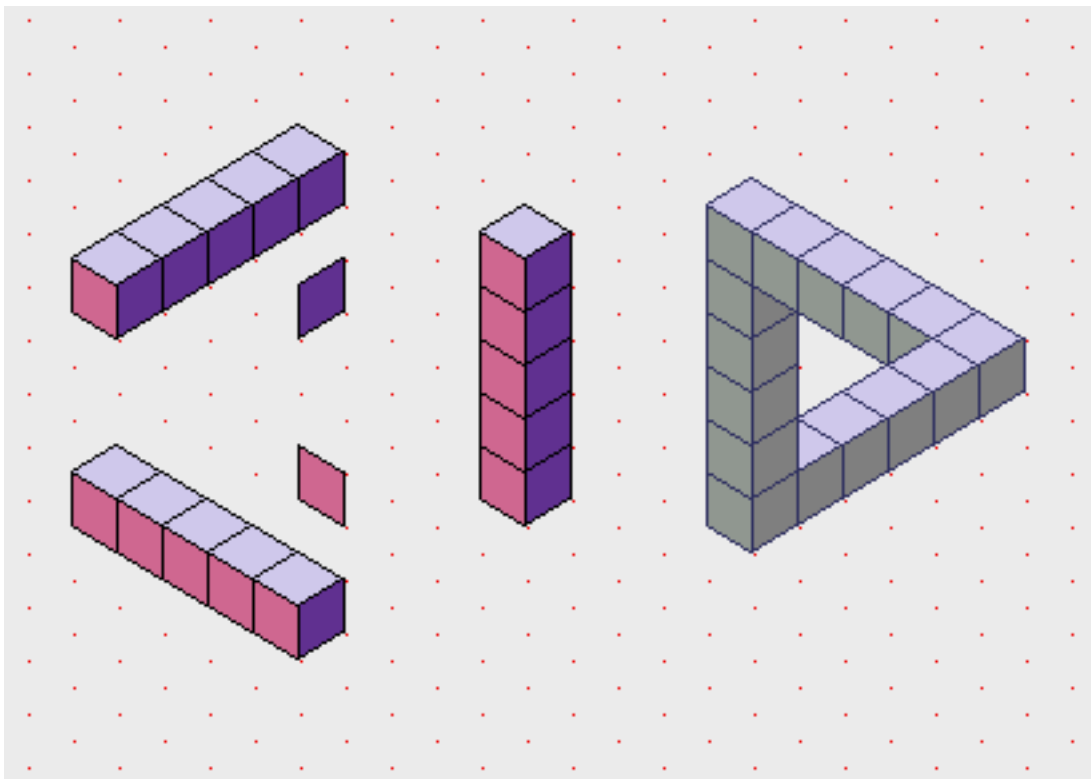
16. Belvedere

This file supplements my article "Computer Games based on Escher's Spatial Illusions" in the book *M.C. Escher's Legacy*, which describes sixteen puzzles I designed for the computer game *Impossible Puzzles*, included in the CD-ROM *Escher Interactive* (CD-ROM for Windows; Byron Preiss Multimedia / Harry Abrams, 1996). For more information, see my web site <http://www.scottkim.com>.

Escher Interactive Free Puzzle (Windows only)

Here is a demo program that lets you play one of the Impossible Puzzles (number 9, Impossible Triangle). The demo works only on Windows computers. Click on the button below to install.

Your challenge is to arrange the five purple pieces so they form a copy of the impossible triangle shown in gray. When you click on a piece, it pops to the front-most layer, and may overlap other pieces. If you lose one of the two little rhombuses, try moving the big pieces to the side. You can assemble the pieces directly on top of the answer, or off to the side, as you wish. (The picture below is a static illustration.)



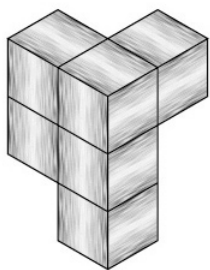
Animation of Escher's Name

I created the animation below as an introductory screen for the Impossible Puzzles. Notice that the highlight travels across the letters MCESCHER in order. The name appears in four different orientations. Each copy of the name overlaps four other copies of the name at two types of junctures: the M is also an E, and the S is also an H. This image first appeared in my book *Inversions* (Key Curriculum Press, 1996).

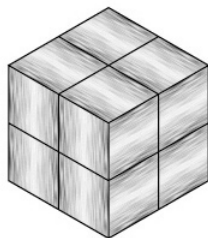
Click the picture to play the animation.

Convex Concave

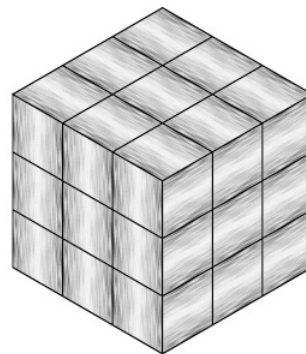
The following puzzle originally appeared in *Games Magazine*. It is based on the computer game *Heaven & Earth*, which was also the basis for the *Impossible Puzzles* in *Escher Interactive*. The title comes from the Escher print of the same name. Print the pieces on the next page onto heavy paper and cut them out. Can you assemble the pieces to make each of the figures shown below? You can rotate or overlap pieces, but folding and cutting aren't allowed. Each figure tells you how many pieces you may use. Answers on page 6.



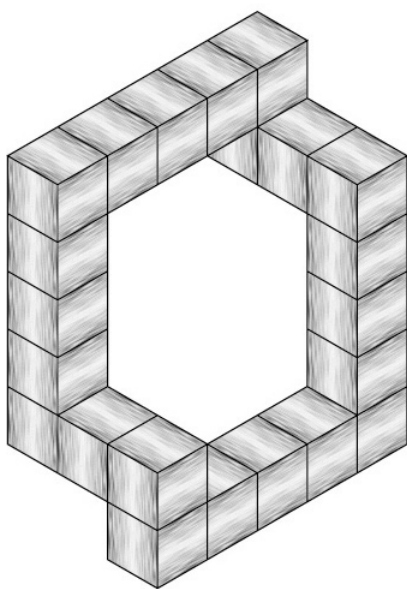
1. Two pieces



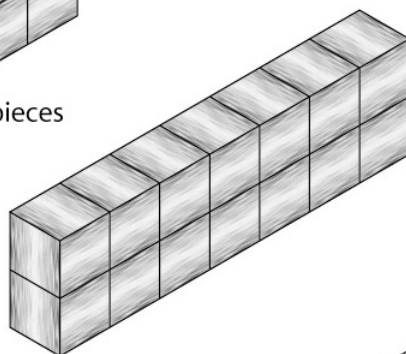
2. Three pieces



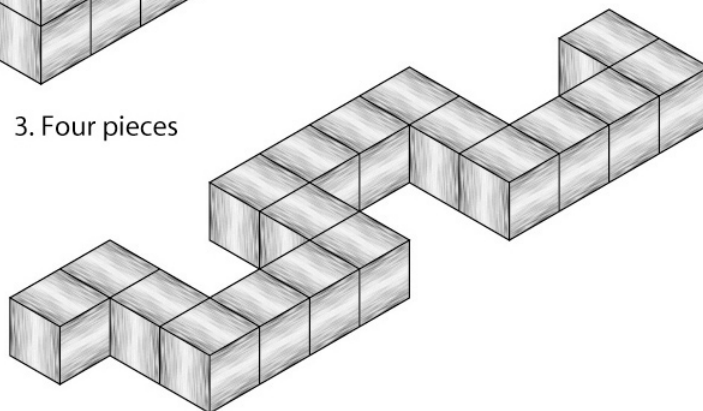
4. Six pieces



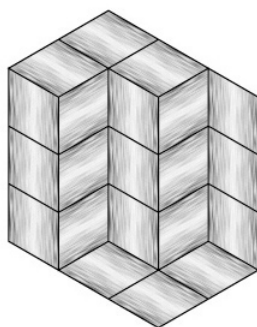
5. Six pieces



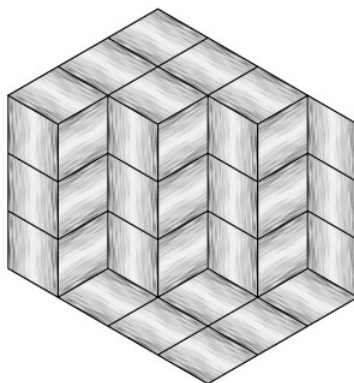
3. Four pieces



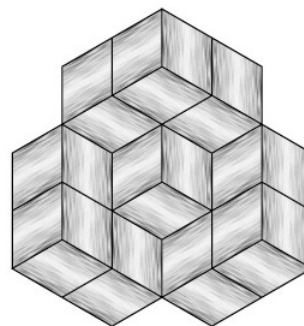
6. Seven pieces



7. Four pieces

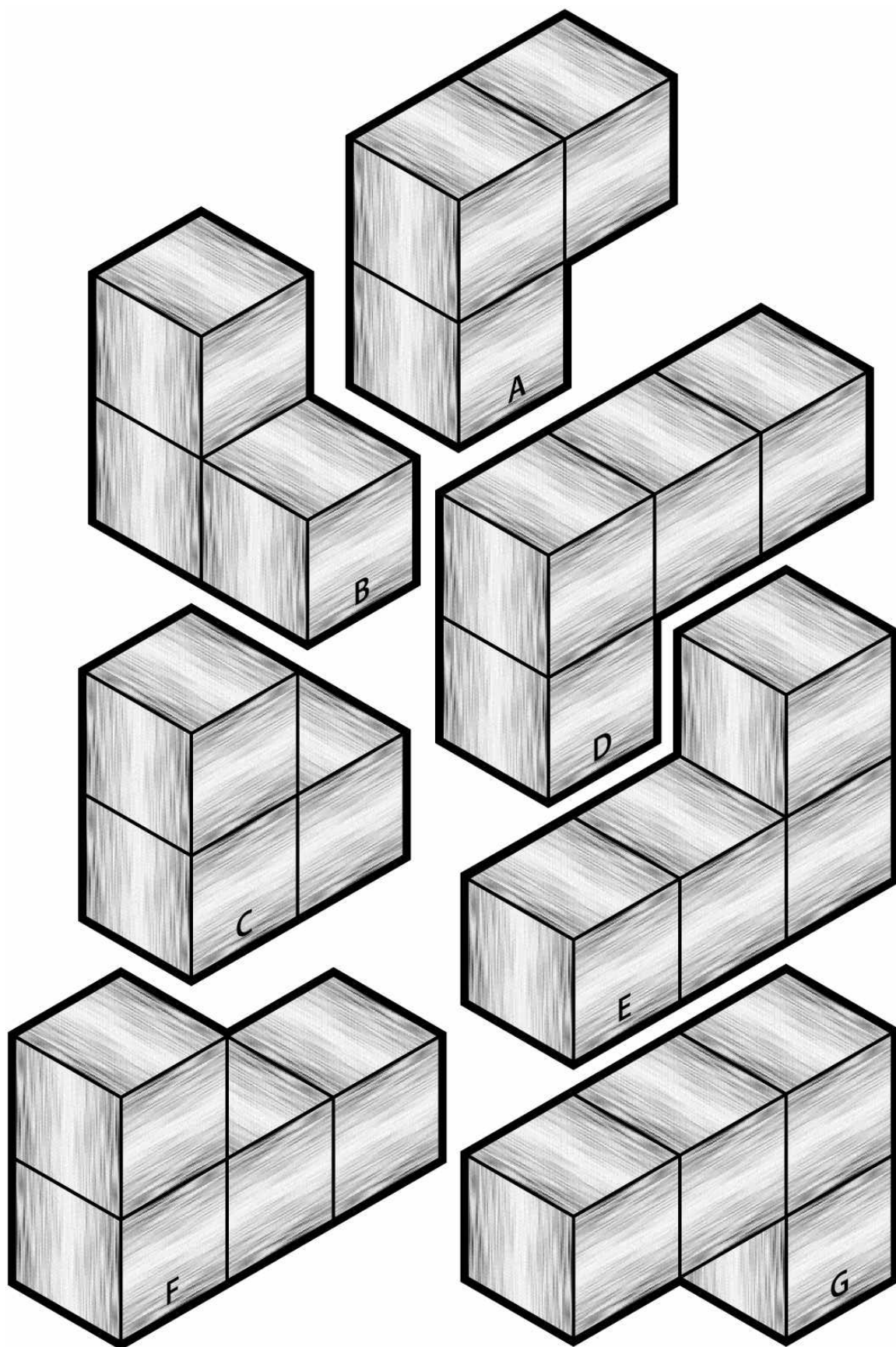


8. Seven pieces

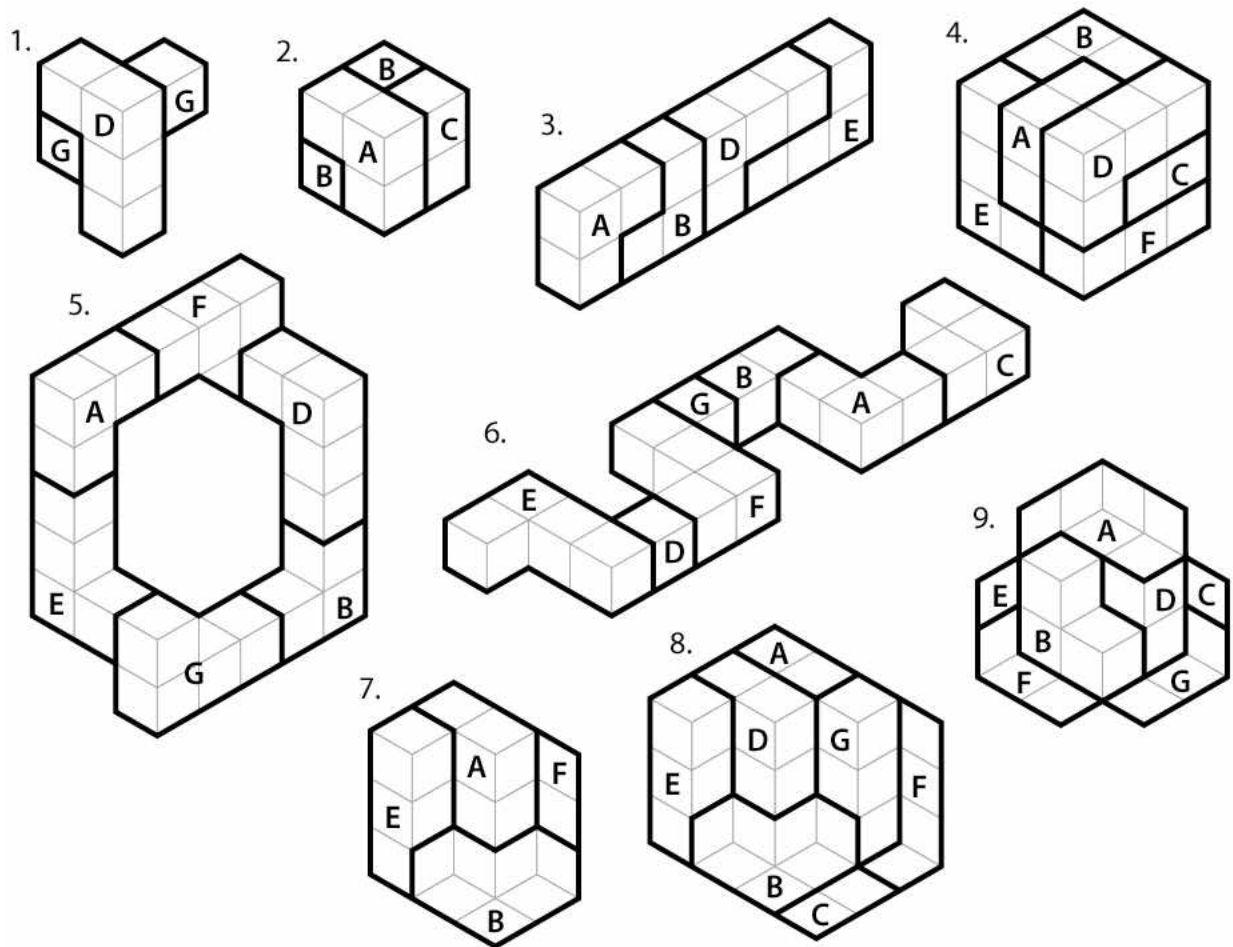


9. Seven pieces

Pieces for Convex Concave puzzles



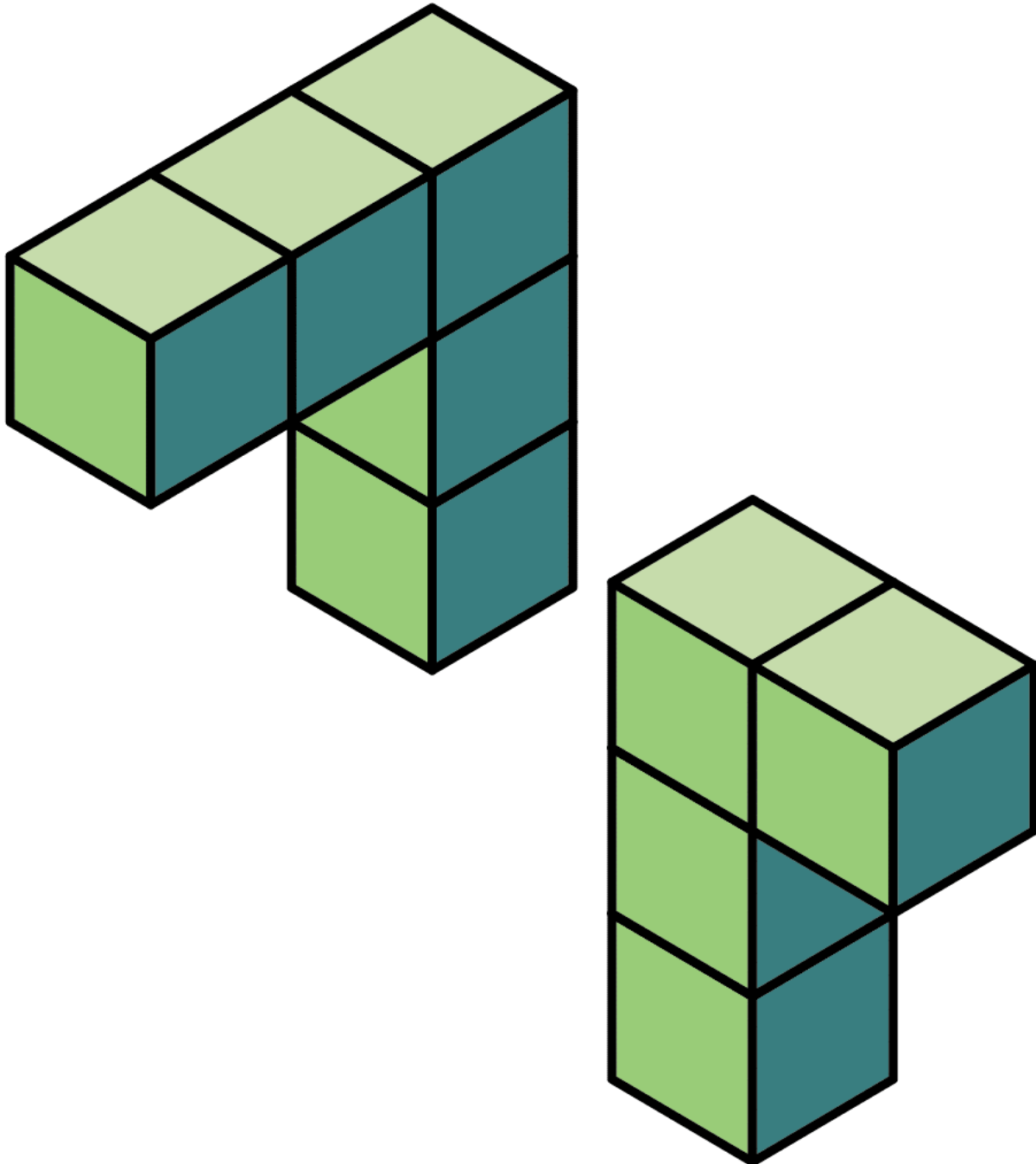
Answers to Convex Concave Puzzles



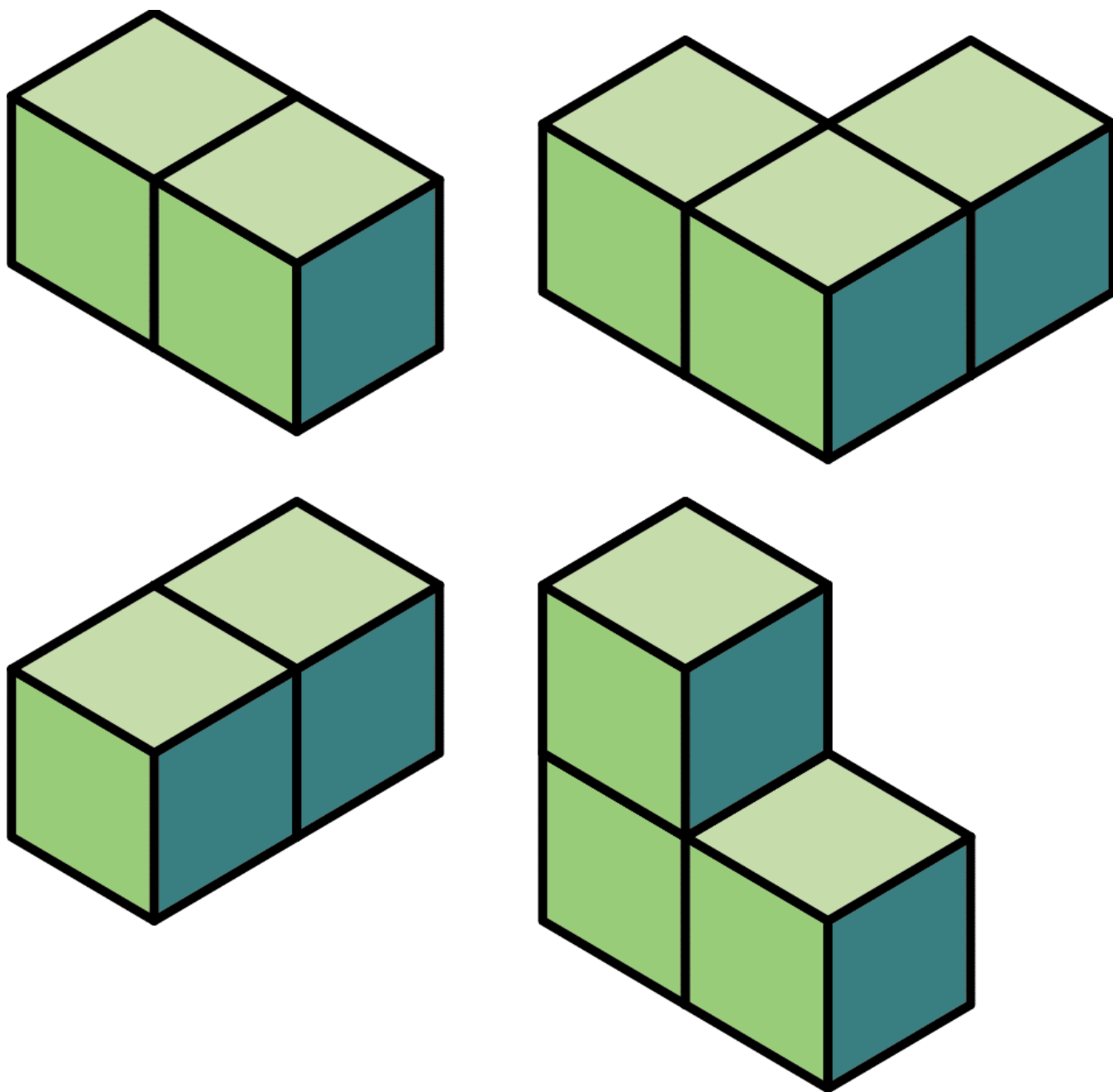
Paper Versions of the Impossible Puzzles

Here are paper versions of the Impossible Puzzles that you can play without a computer. Print the pieces on heavy paper, cut them out, and assemble them to match the corresponding figures on page 1. You may overlap pieces, but cutting or folding are not allowed. All pieces must be used. I recommend especially puzzles 5 and 14 (also 3, 4, 11 and 16); other puzzles tend to be too easy, too hard, or too tedious to play as physical puzzles. Solutions on pages 23-26.

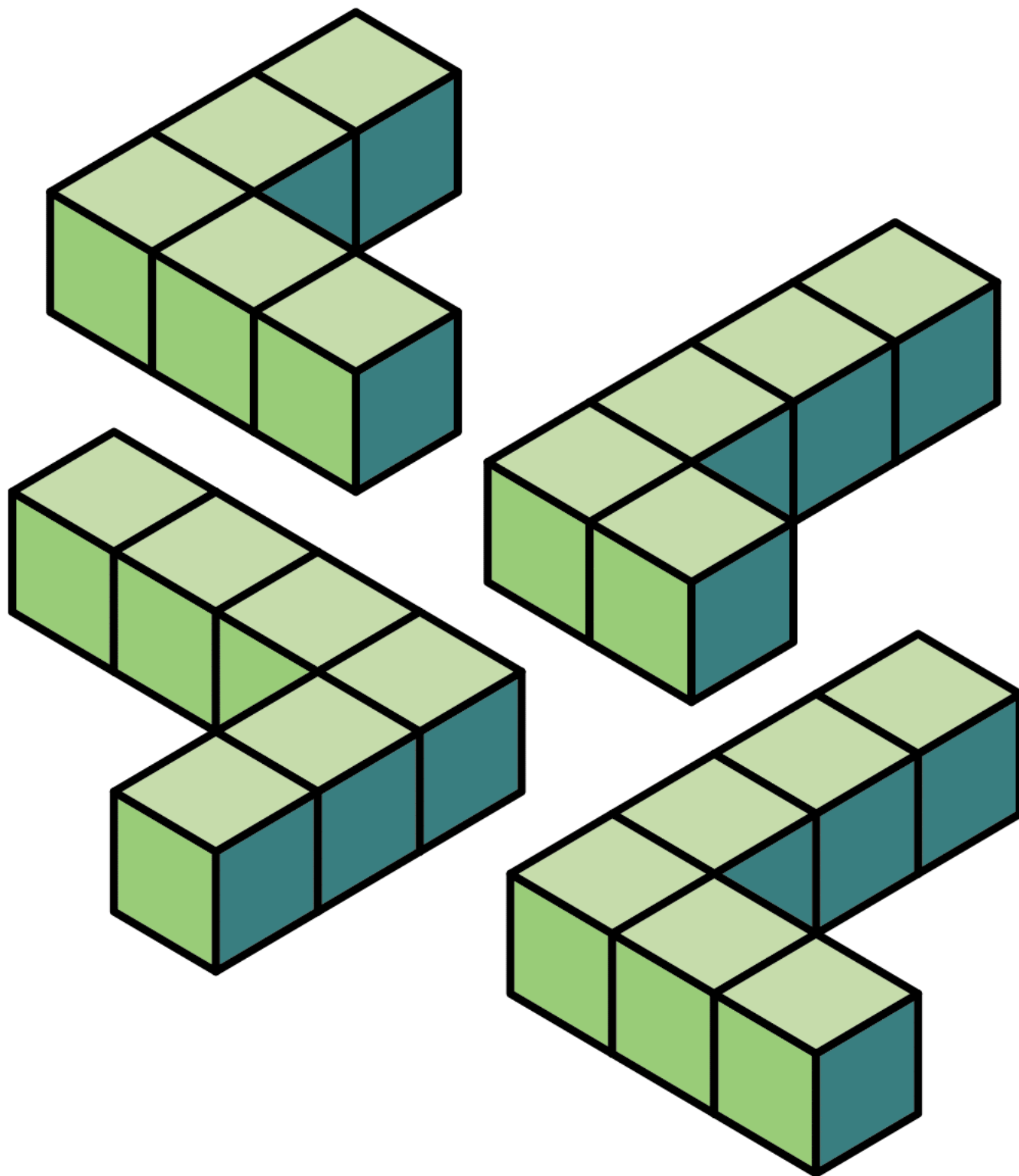
1. The Letter M. From “Impossible Puzzles” (Escher Interactive CD-ROM)



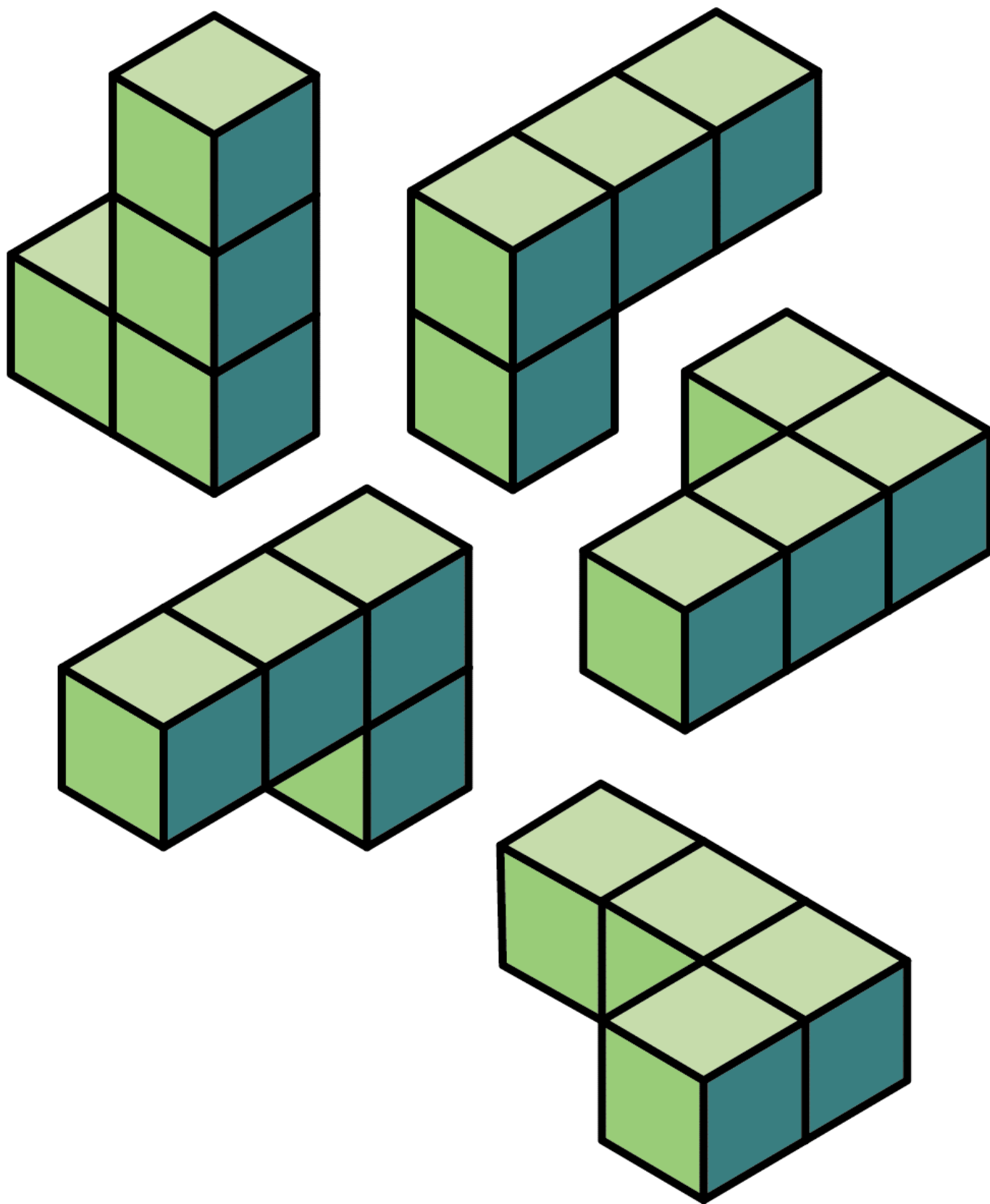
2. The Letter C. From “Impossible Puzzles” (Escher Interactive CD-ROM)



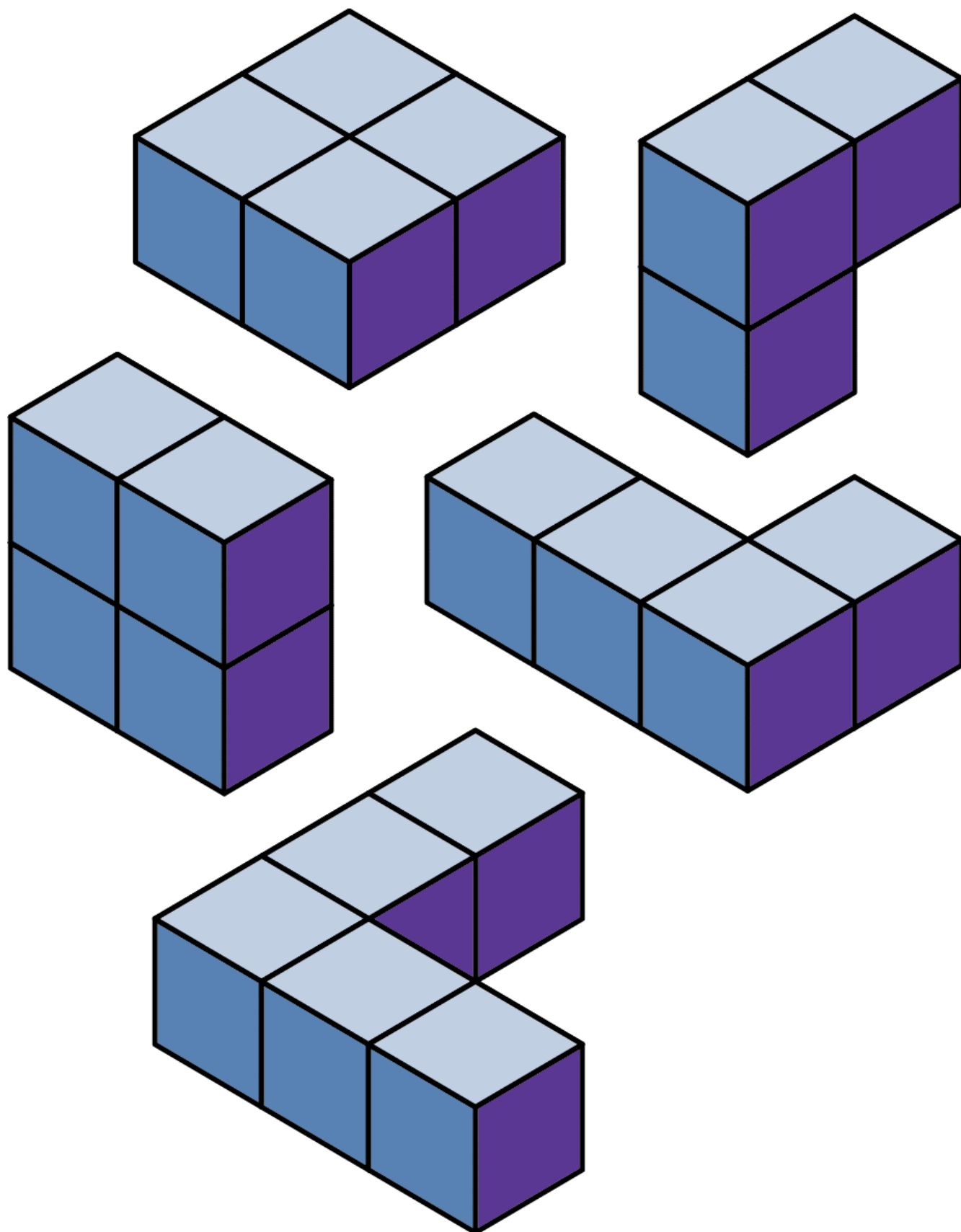
3. The Letter E. From “Impossible Puzzles” (Escher Interactive CD-ROM)



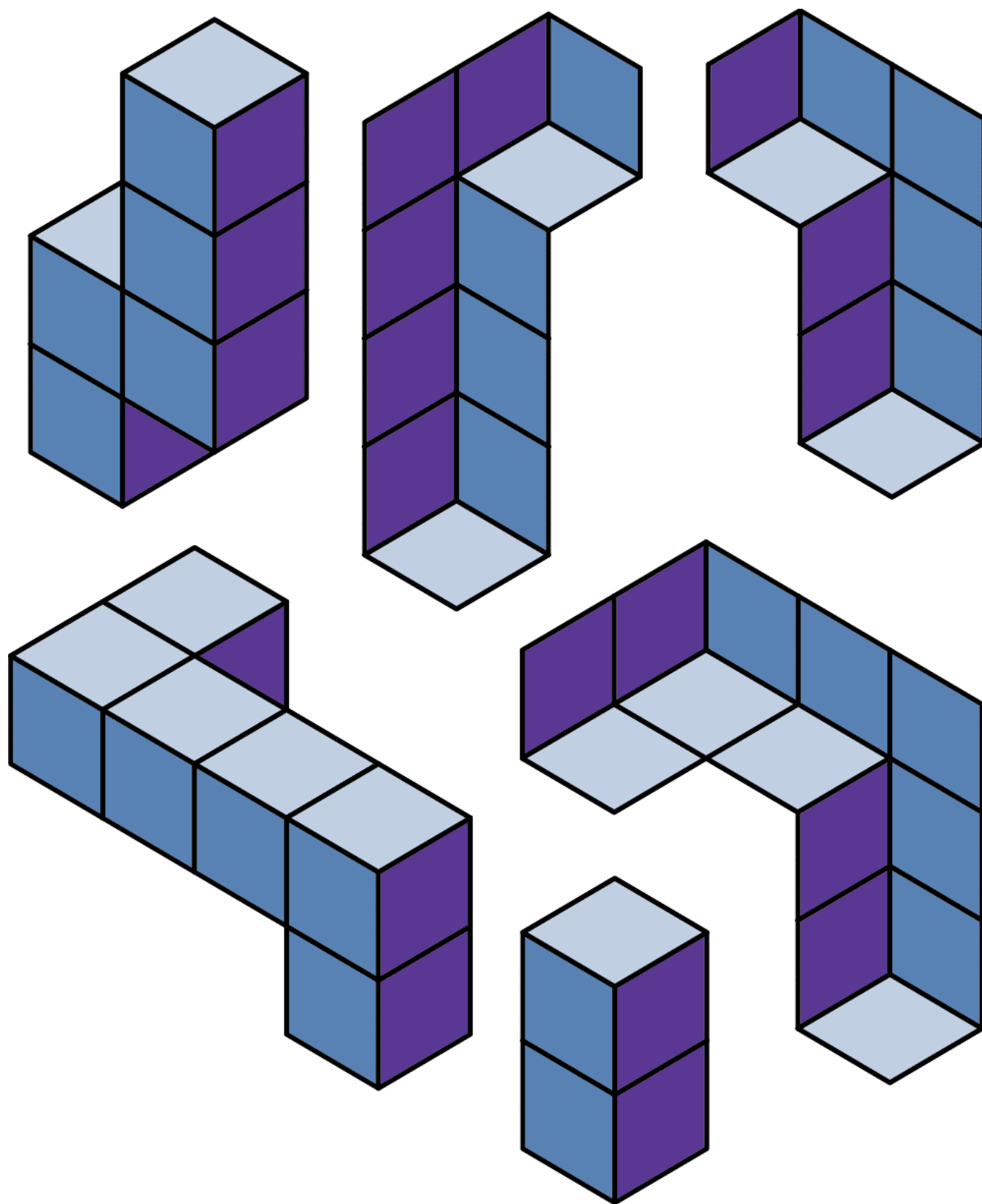
4. The Letter S. From “Impossible Puzzles” (Escher Interactive CD-ROM)



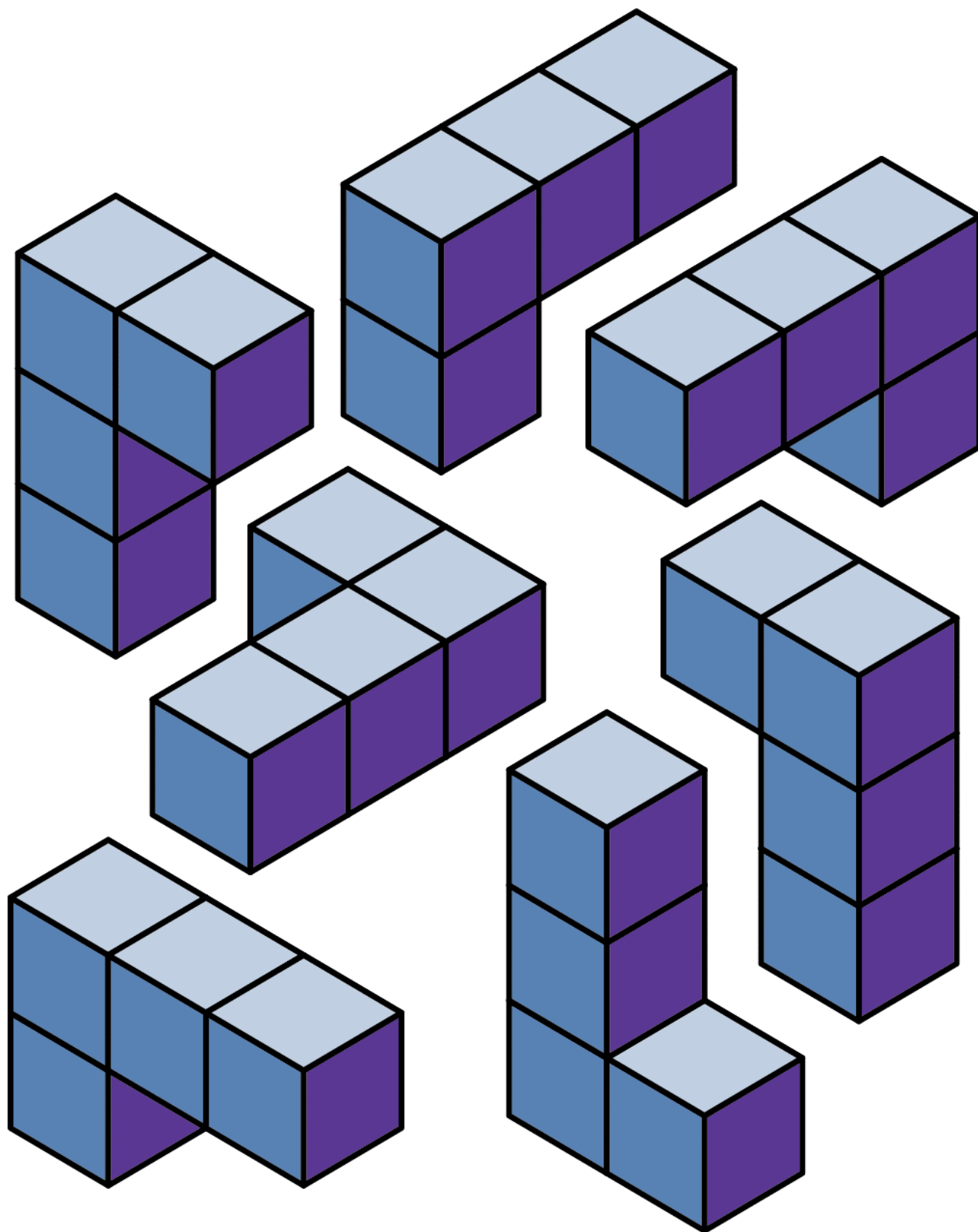
5. The Letter C (variation). From “Impossible Puzzles” (Escher Interactive CD-ROM)



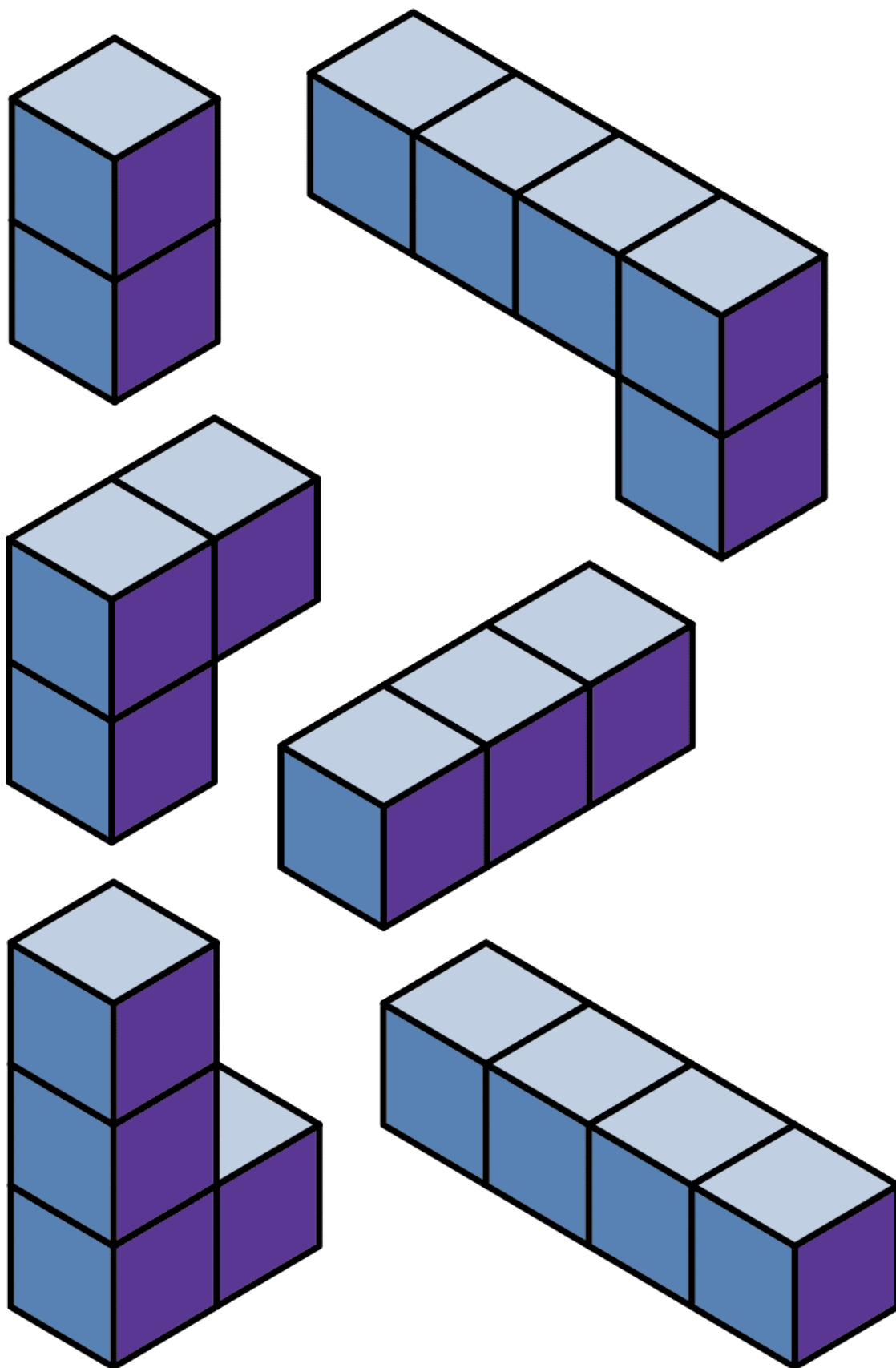
6. The Letter H. From “Impossible Puzzles” (Escher Interactive CD-ROM)



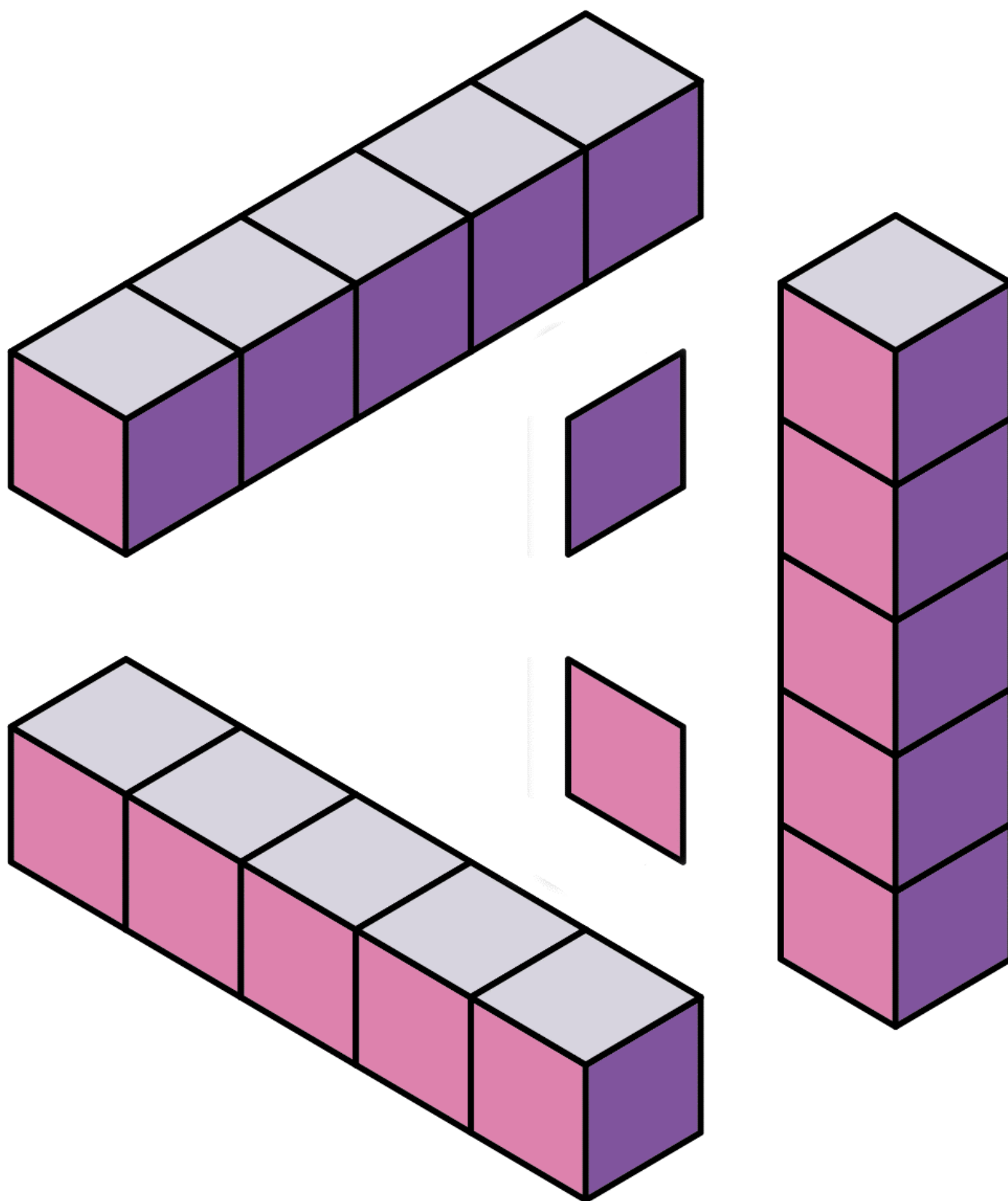
7. The Letter E (variation). From “Impossible Puzzles” (Escher Interactive CD-ROM)



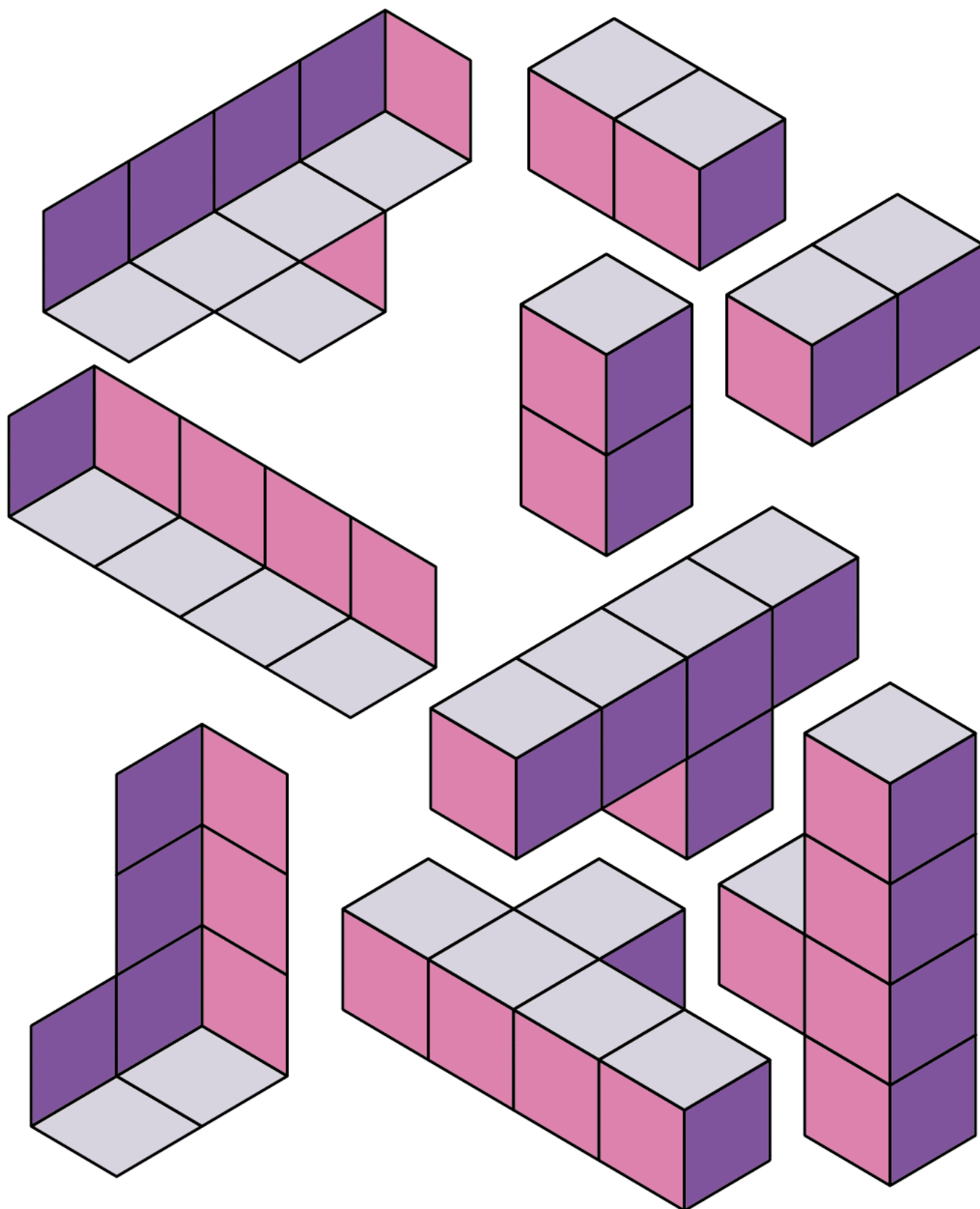
8. The Letter R. From “Impossible Puzzles” (Escher Interactive CD-ROM)



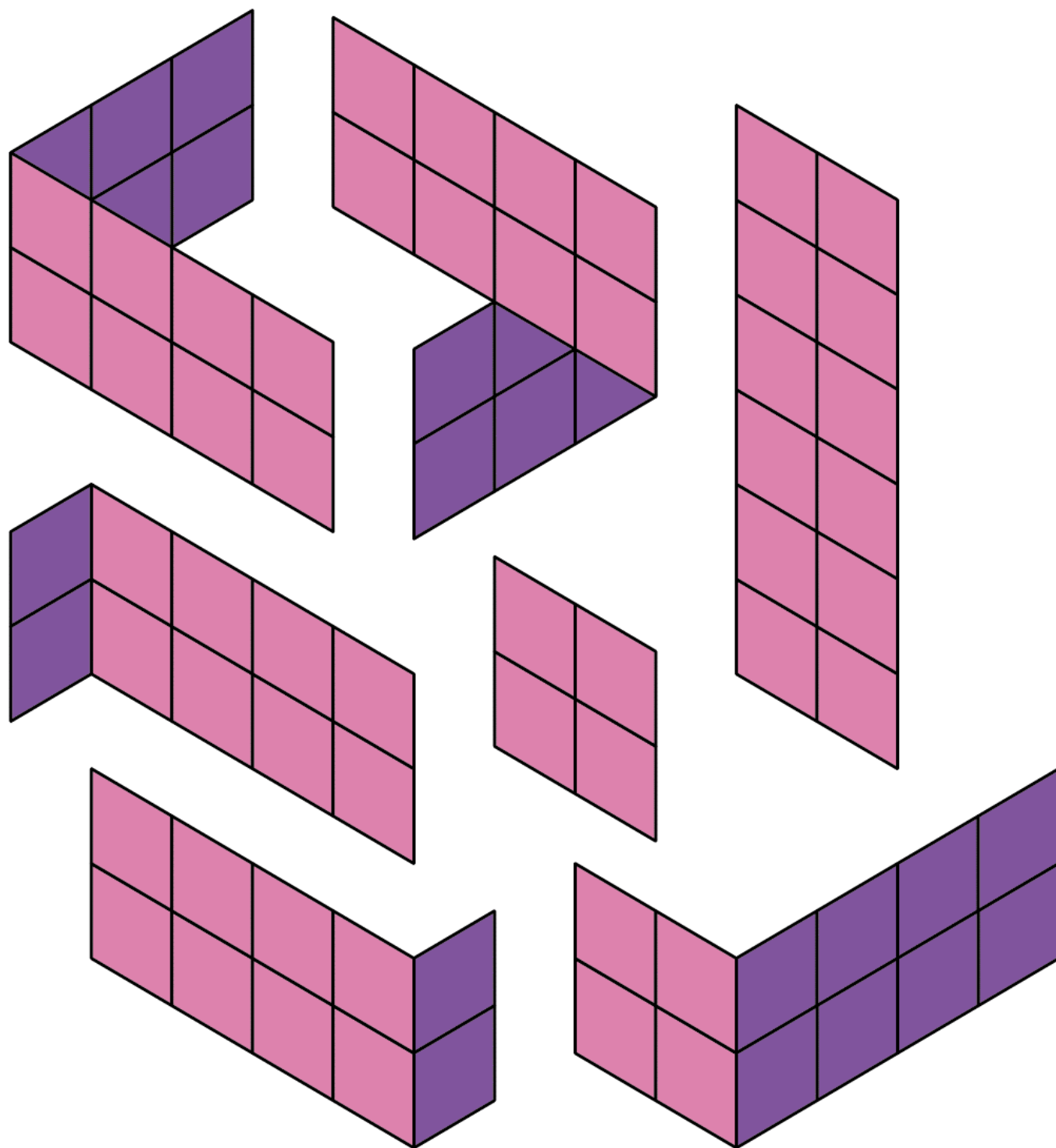
9. Impossible Triangle. From “Impossible Puzzles” (Escher Interactive CD-ROM)



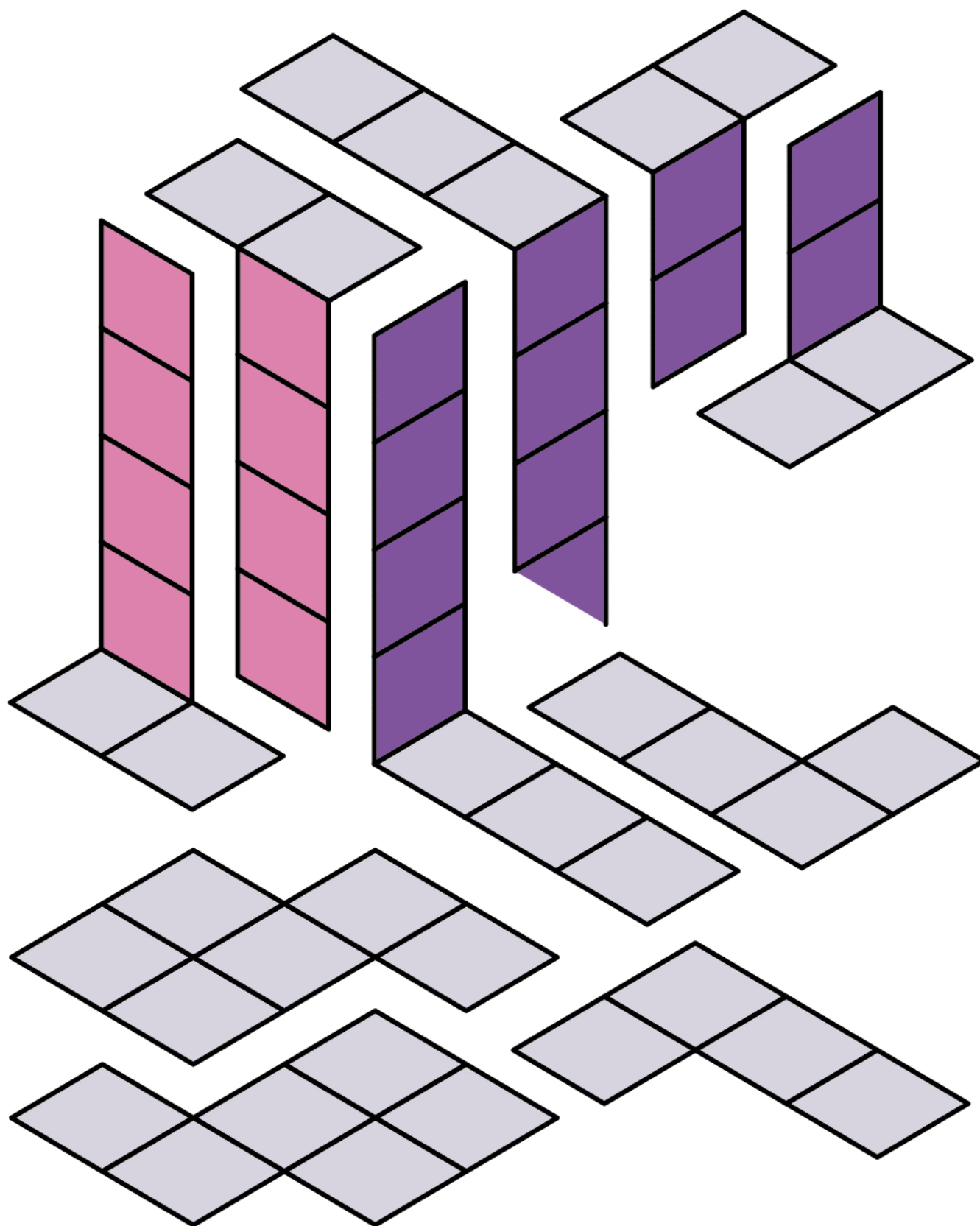
10. Relativity. From “Impossible Puzzles” (Escher Interactive CD-ROM)



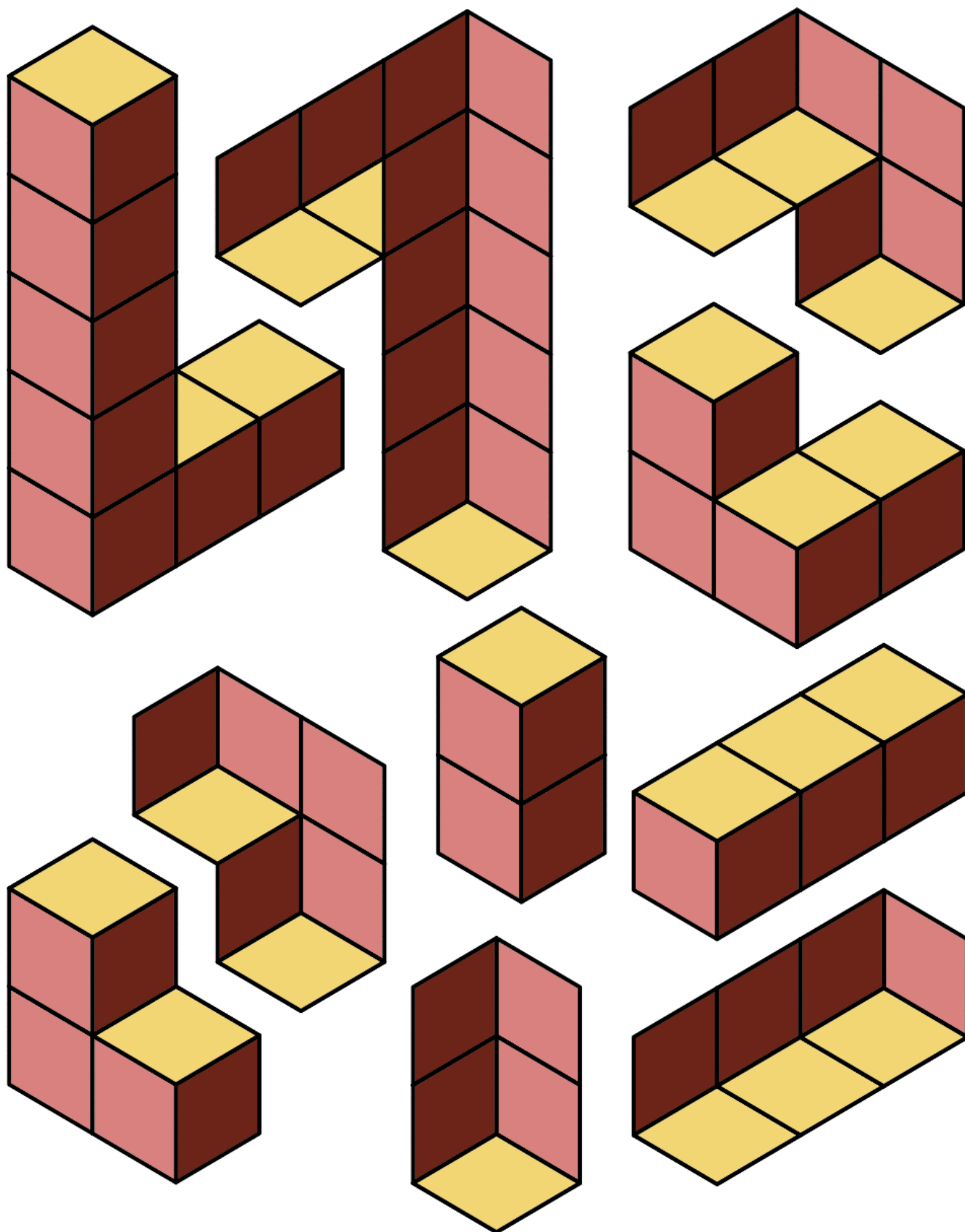
11. Dragon. From “Impossible Puzzles” (Escher Interactive CD-ROM)



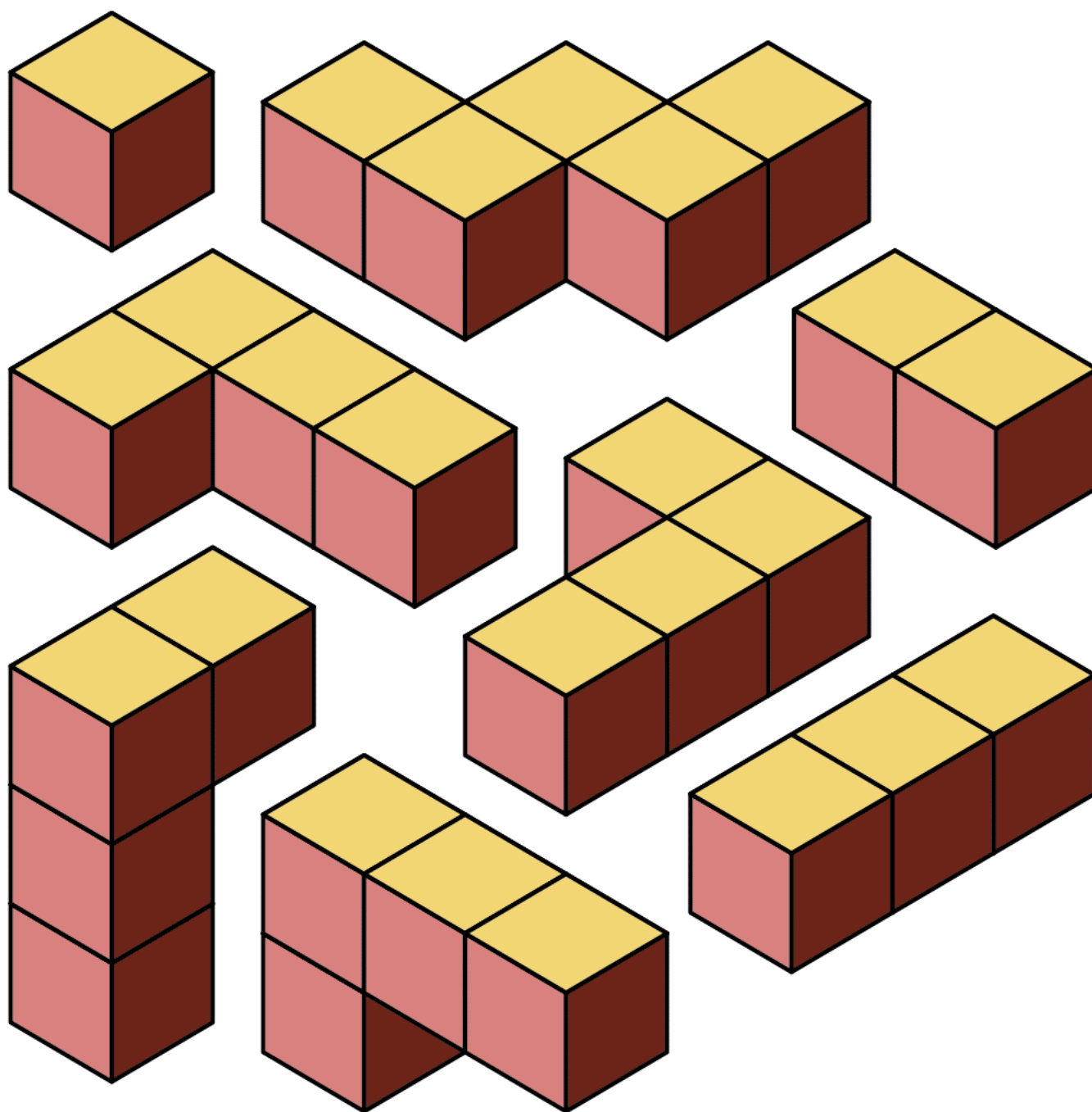
12. Columns. From “Impossible Puzzles” (Escher Interactive CD-ROM)



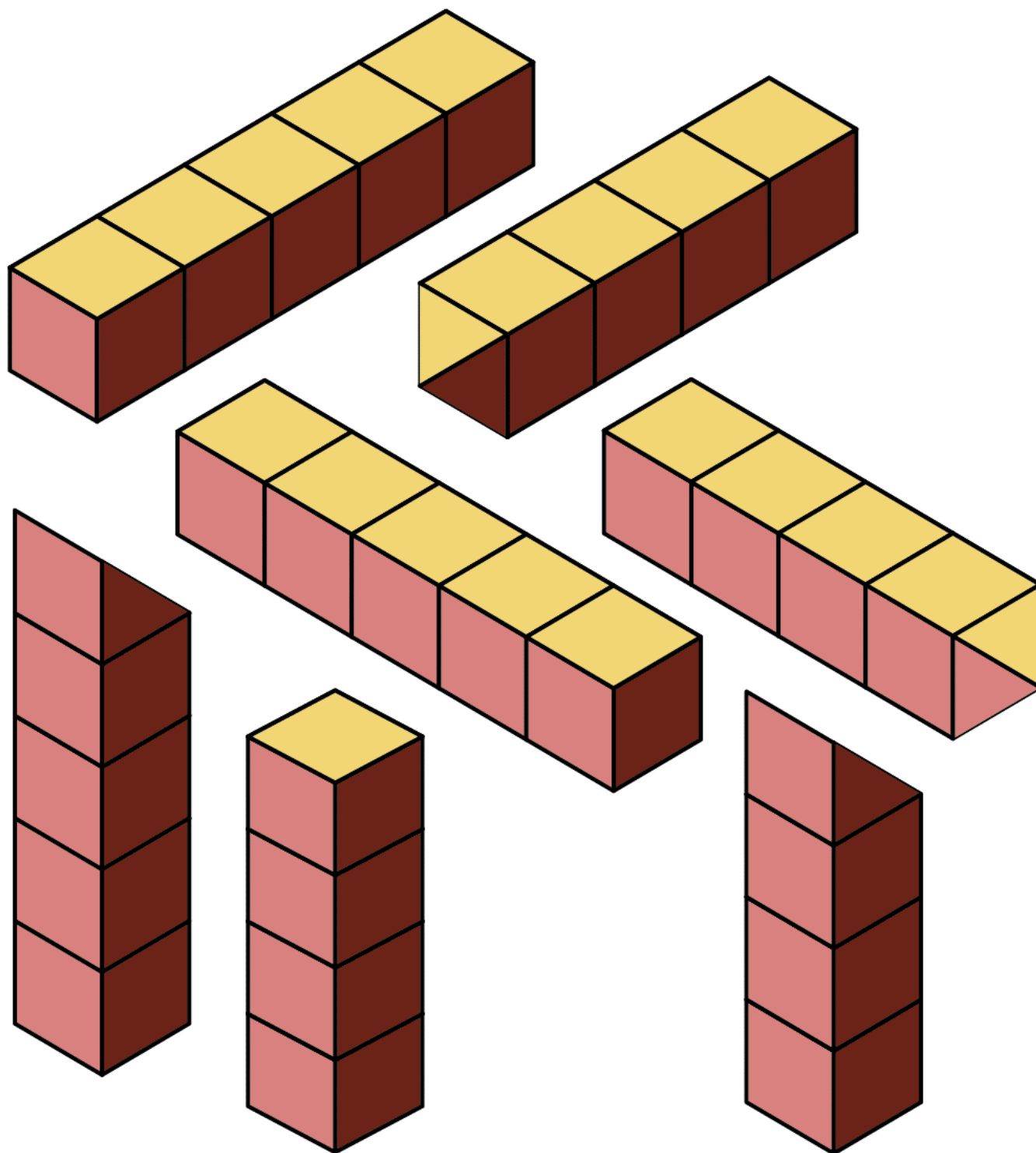
13. Staircase. From “Impossible Puzzles” (Escher Interactive CD-ROM)



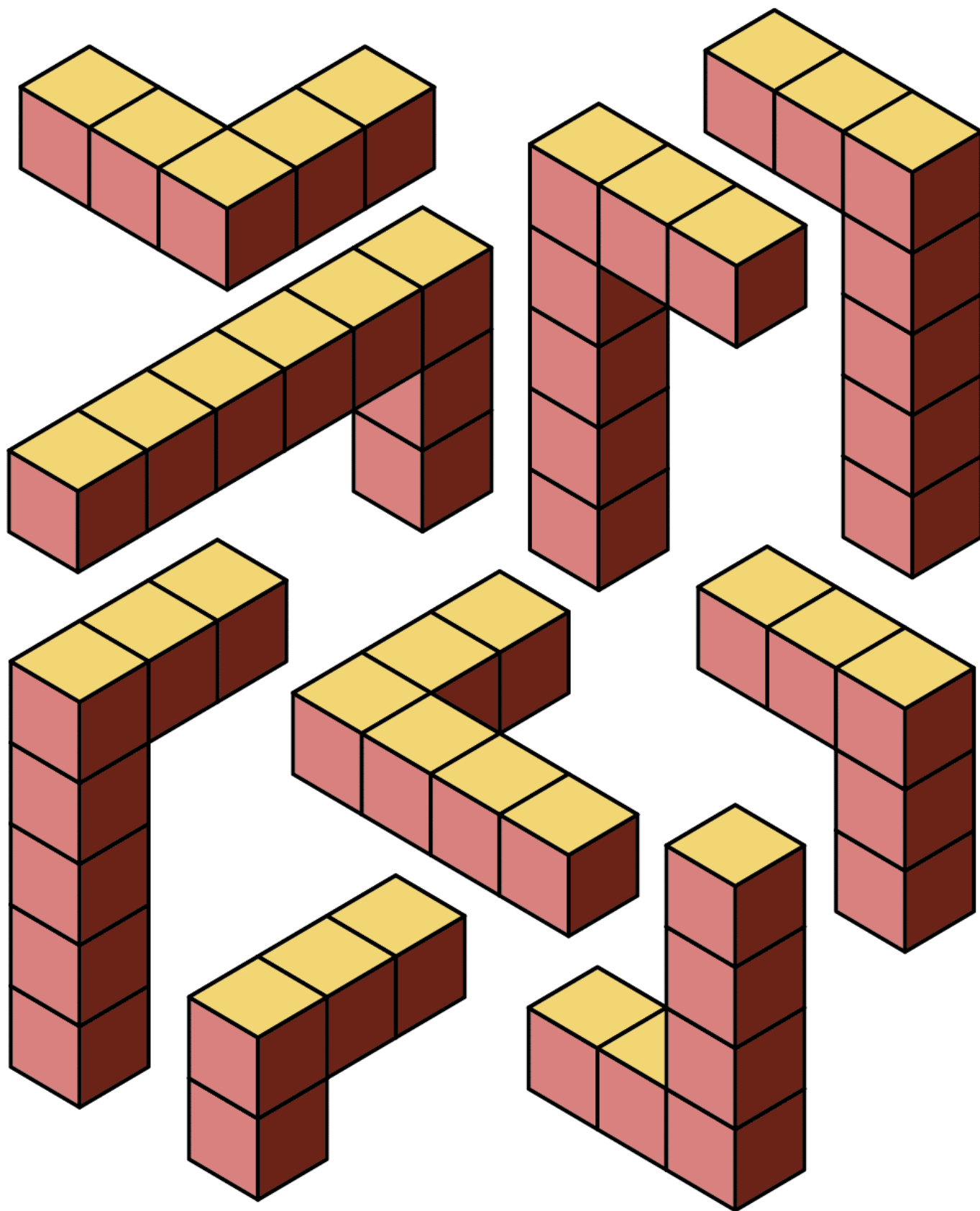
14. Ascending. From “Impossible Puzzles” (Escher Interactive CD-ROM)



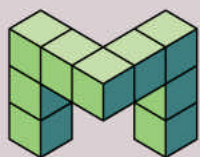
15. Waterfall. From “Impossible Puzzles” (Escher Interactive CD-ROM)



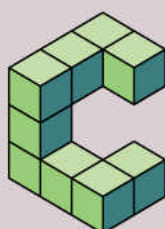
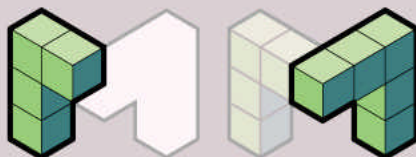
16. Belvedere. From “Impossible Puzzles” (Escher Interactive CD-ROM)



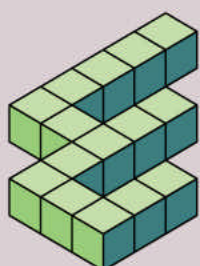
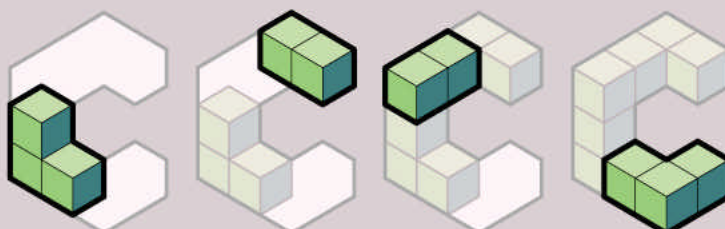
Solutions to Impossible Puzzles 1–4 from Escher Interactive



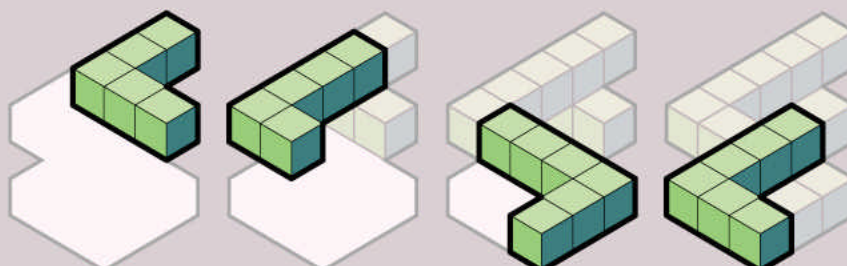
1. The Letter M



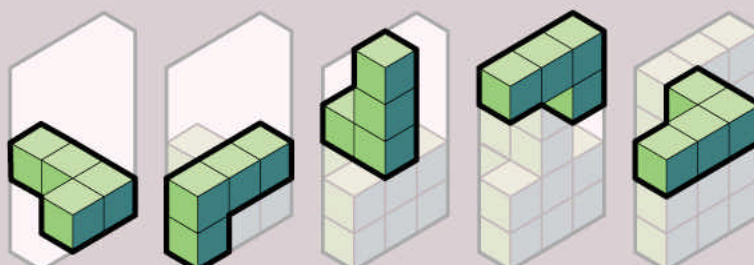
2. The Letter C



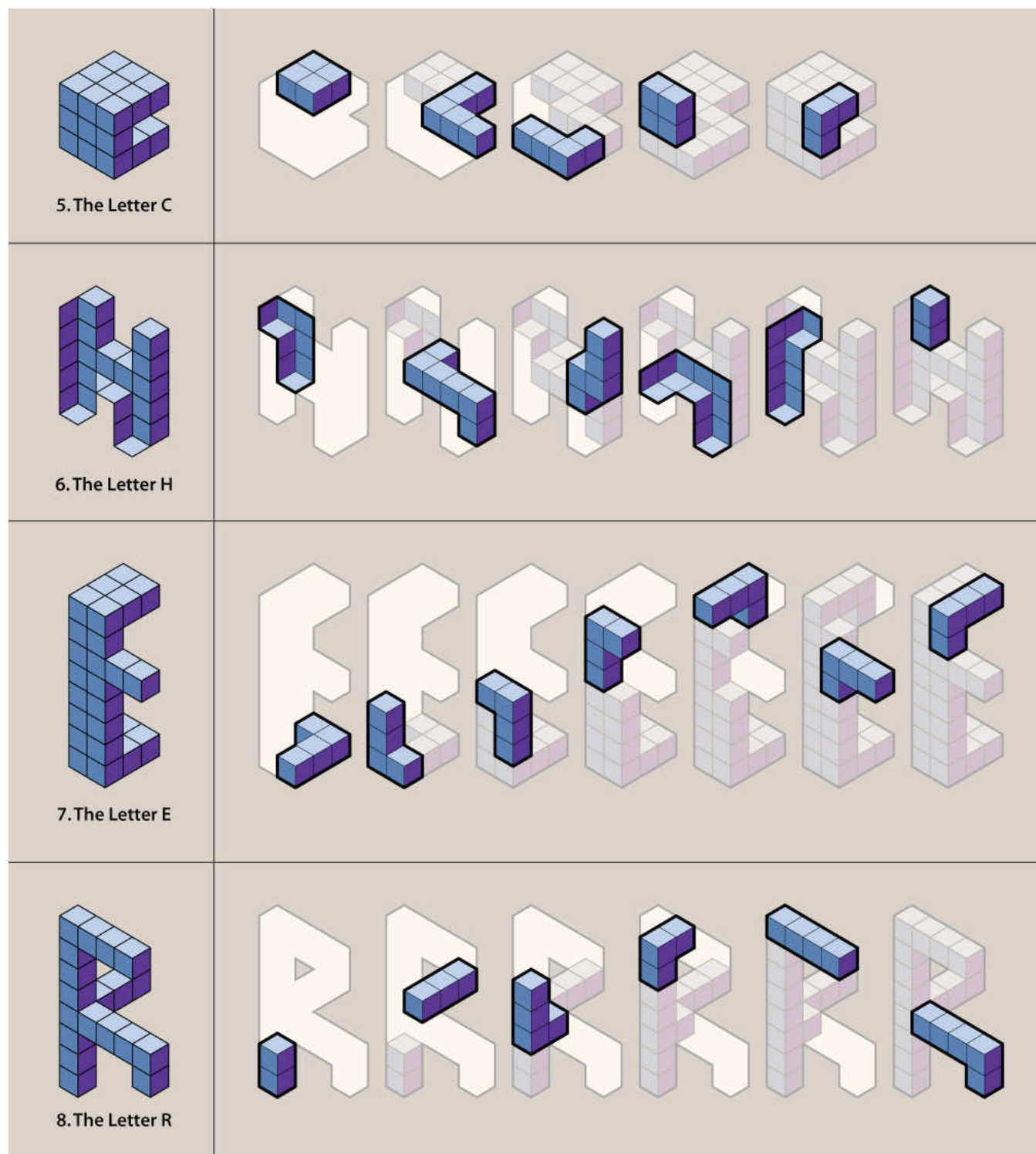
3. The Letter E



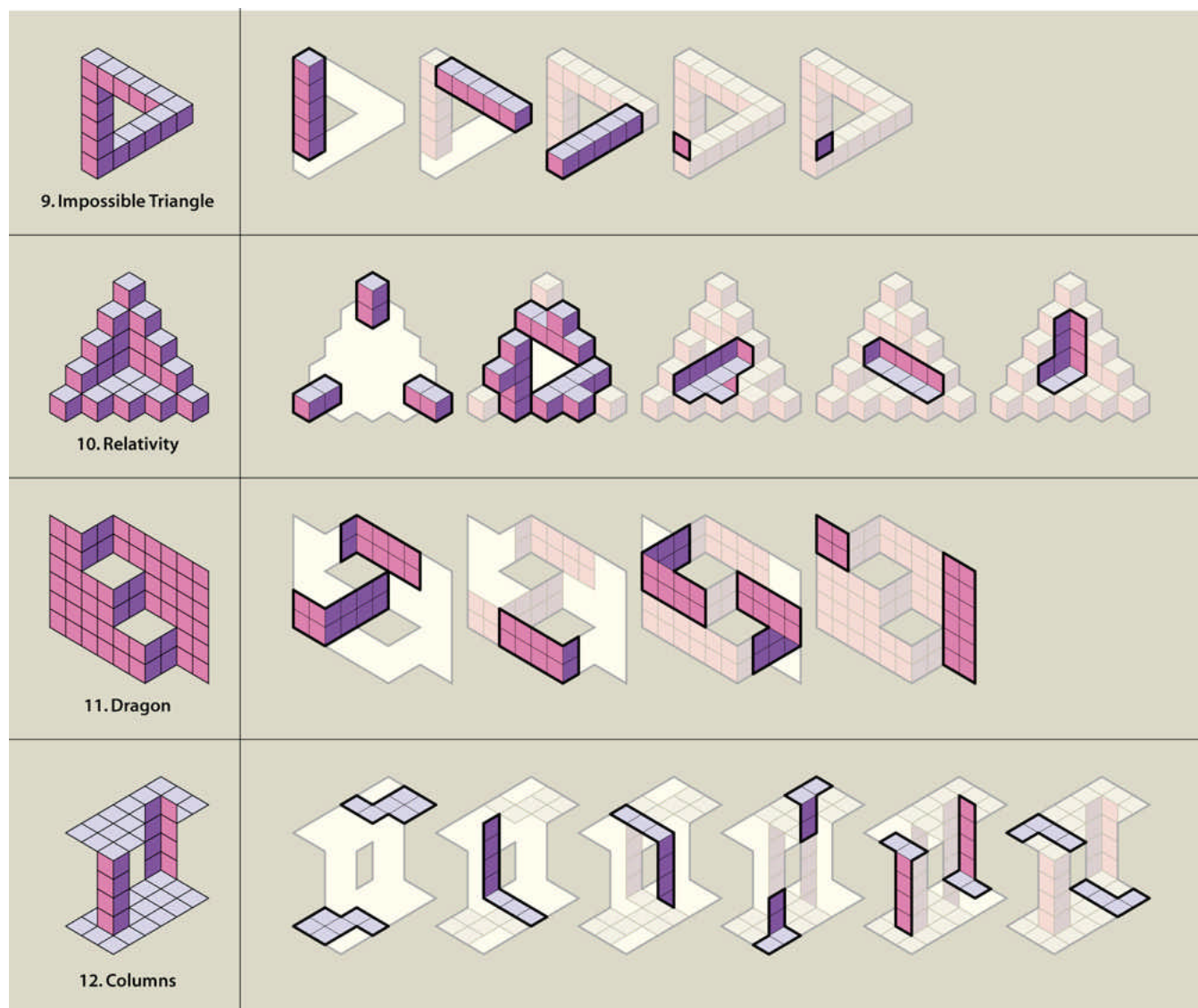
4. The Letter S



Solutions to Impossible Puzzles 5–8 from Escher Interactive



Solutions to Impossible Puzzles 9–12 from Escher Interactive



Solutions to Impossible Puzzles 13–16 from Escher Interactive

