



LINES OF SYMMETRY • GRADE 4 • 4.G.A.3

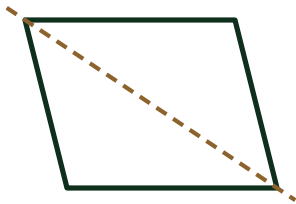
Lines of Symmetry Check

Name _____ Date _____ Correct _____ / 20

1 Rule on the line somebody drew - you produce no line here, you judge one

Each picture already carries one dashed line. Ring whether the picture folds along that line so that one part lands exactly on the other.

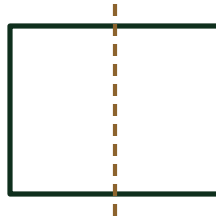
1. (a)



along that line it ☐ folds

☐ does not fold

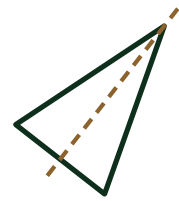
2. (b)



along that line it ☐ folds

☐ does not fold

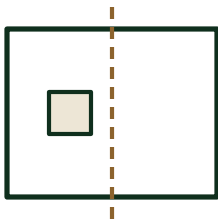
3. (c)



along that line it ☐ folds

☐ does not fold

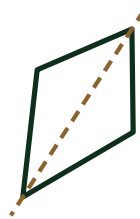
4. (d)



along that line it ☐ folds

☐ does not fold

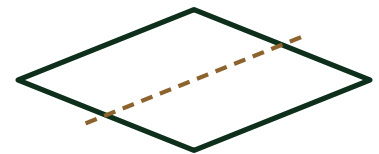
5. (e)



along that line it ☐ folds

☐ does not fold

6. (f)



along that line it ☐ folds

☐ does not fold

7. The dashed line cuts all three pictures you ruled out into two parts of the same size. One of the three was ruled out for a reason the other two were not. Say which, and say what is different about it.

Roots of Reason

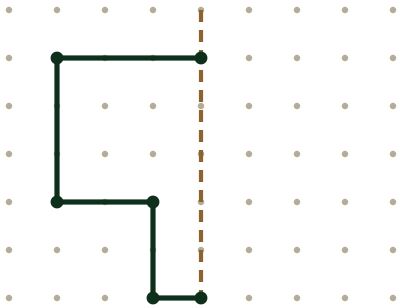
Lines of Symmetry Check · 4.G.A.3

Name _____ Date _____

2 Build the other half - the line is given and half the figure is missing

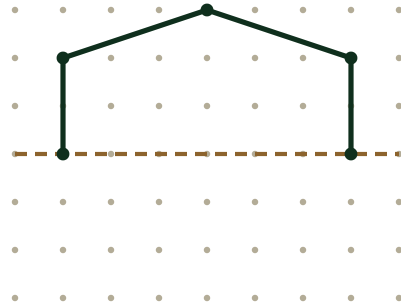
Draw the missing part of each figure so that the whole of it folds onto itself along the dashed line. Every corner lands on a dot. Then count the corners the whole figure carries.

8. (h)



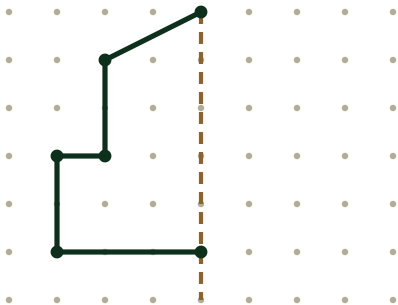
corners on the whole figure _____

9. (i)



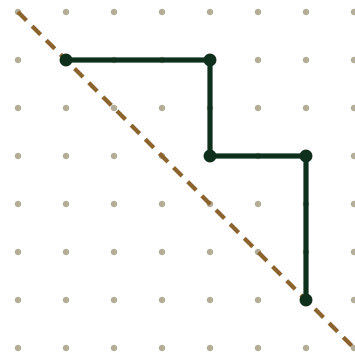
corners on the whole figure _____

10. (j)



corners on the whole figure _____

11. (k)



corners on the whole figure _____

12. A classmate finished (k) by sliding every corner the same number of steps across the line, keeping each edge pointing the way it already did. Say what that gives instead of a figure that folds, and give one corner that shows it.

Roots of Reason

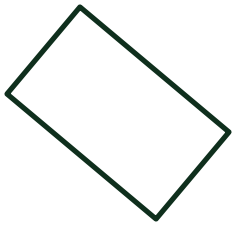
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Name _____ Date _____

3 Rule them all, then count - one of these six cannot be answered with a number

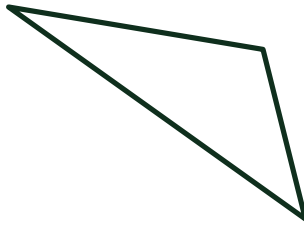
Rule every line of symmetry each picture holds, then write how many it holds.

13. (r)



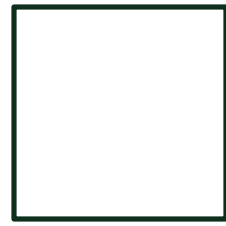
lines it holds _____

14. (s)



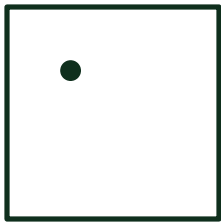
lines it holds _____

15. (t)



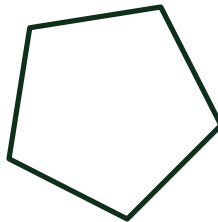
lines it holds _____

16. (u)



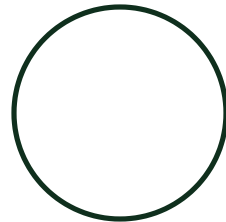
lines it holds _____

17. (v)



lines it holds _____

18. (w)



lines it holds _____

19. Say why no number you can count to is the right answer for (w).

20. Pictures (t) and (u) have exactly the same outline and different counts. Say what makes the difference, and say which one line (u) holds.



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Lines of Symmetry Check

Rule on the line somebody drew

1. (a) *does not fold* 2. (b) *folds* 3. (c) *folds* 4. (d) *does not fold* 5. (e) *folds* 6. (f) *does not fold*

The lines in (c) and (e) run at a slant, so a reader who trusts only across and down rules out two pictures that do fold.

7. (d). In (a) and (f) the outline itself does not land on itself: the line in (a) sends each corner off it to a place the picture has no corner, and the line in (f) halves a rhombus and does nothing else. In (d) the outline lands on itself exactly and the mark inside does not. It stands wholly left of the line, so folding sends it right, where nothing is. An outline that folds is not the whole picture folding.

Build the other half

Corners given as steps across and steps down from the top left dot.

8. (h) 1,1 1,4 3,4 3,6 5,6 5,4 7,4 7,1, five new strokes, 8 corners. 9. (i) 1,1 4,0 7,1 7,5 4,6 1,5, four strokes, 6.

10. (j) 4,0 2,1 2,3 1,3 1,5 7,5 7,3 6,3 6,1, five strokes, 9. 11. (k) 1,1 4,1 4,3 6,3 6,6 3,6 3,4 1,4, four strokes, 8.

12. Sliding carries both ends of the drawn half off the line, so the two halves stop meeting and what stands on the page is one half printed twice, leaning the same way both times. Turning it about the line leaves both ends exactly where they were. The corner four across and three down settles it: turning puts it at *three across and four down*, sliding puts it at one across and six down.

Rule them all, then count

13. (r) 2 14. (s) 0 15. (t) 4 16. (u) 1 17. (v) 5 18. (w) *no end*

19. Every line through the middle of a round piece folds it, and between any two you have drawn another one can always be drawn, so no count you can reach holds them all. The reason is not that it has no straight sides. It is that every point on its edge stands the same fixed distance from its middle.

20. The outline is the same and what stands inside it is not. (t) folds four ways. (u) folds one way only, along the corner to corner line the mark sits on, because that is the one of the four that leaves the mark where it is.

A reader who wrote 0, 0, 2, 0, 0 for items 13 to 17 has tried across and down and stopped, which is one belief and not five mistakes: hand them (r) alone and ask for a third direction. Ringing (a) and (f) as folding takes two parts of the same size for folding. Ringing (d) as folding reads the outline and passes over what stands inside it.