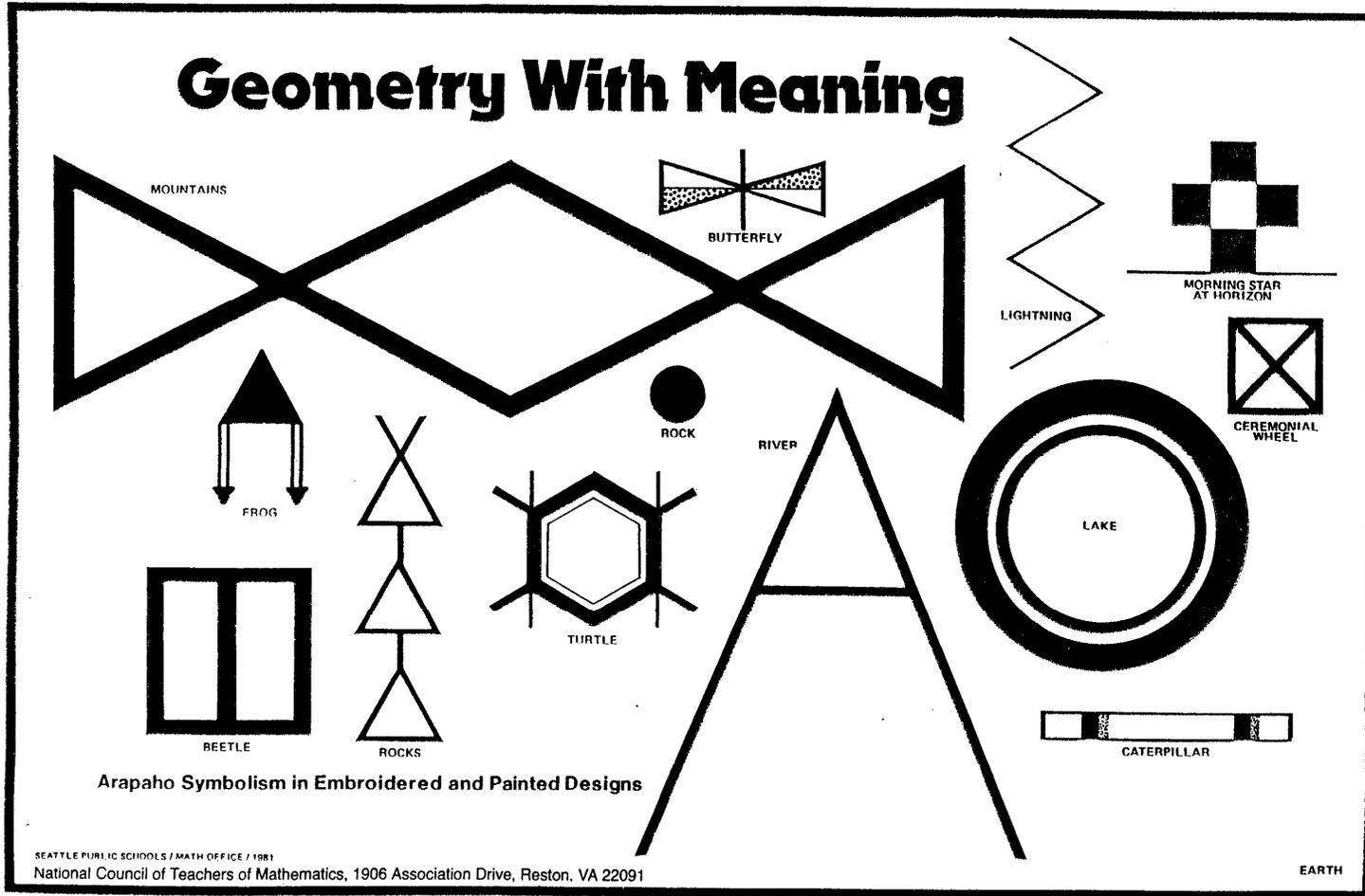


Geometry With Meaning



A.162

[Source: NCTM Multicultural Math]

References:

1. AMERICAN INDIAN DESIGN AND DECORATION by Appleton, Dover Publications, 1971
2. THE LANGUAGE OF PATTERNS by Albarn and others, Harper Row, 1974
3. AFRICA COUNTS by Zaslavsky, Lawrence Hill & Co., 1979

Activities:

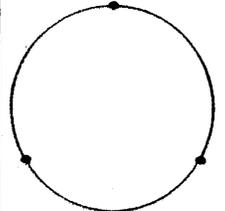
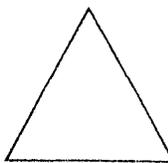
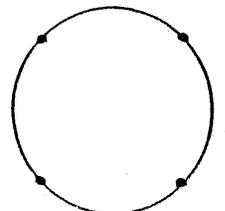
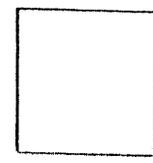
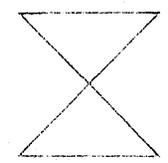
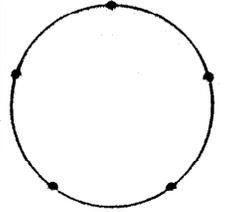
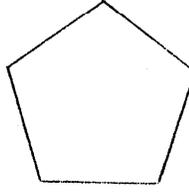
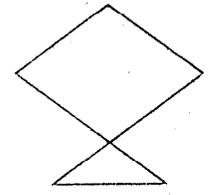
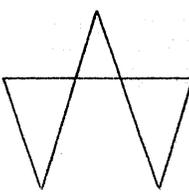
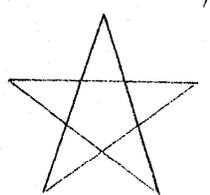
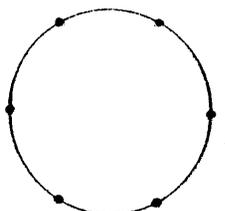
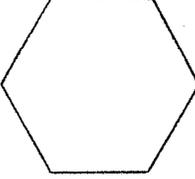
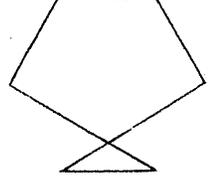
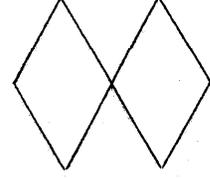
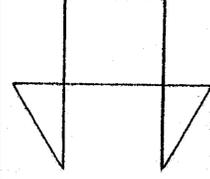
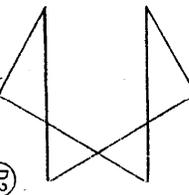
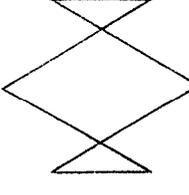
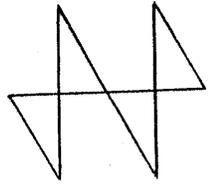
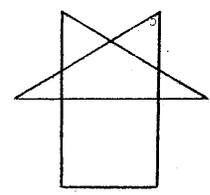
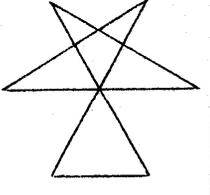
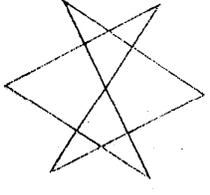
1. Investigate and report on geometric designs used in Native American art. (See above.)
2. Investigate and report on geometric designs used in other cultures.
3. Complete the activities given on A.163-164.

STAR DESIGNS

STAR designs are constructed on circles with equally spaced points. Designs for circles with 3, 4, 5, and 6 points are shown. Rules for construction of the designs are given at the right.

1. A continuous "line" is drawn from point to point without retracing and ending at the starting point.
2. Each point joins exactly two segments of the design.
3. Each design has either line or point symmetry.

A.163

How many lines of symmetry? 1. _____ 10. _____ 2. _____ 11. _____ 3. _____ 12. _____ 4. _____ 13. _____ 5. _____ 14. _____ 6. _____ 15. _____ 7. _____ 16. _____ 8. _____ 17. _____ 9. _____ 18. _____		1 		2 	3 
		4 	5 	6 	7 
		8 	9 	10 	11 
	13 	14 	15 	16 	17 
	18 				

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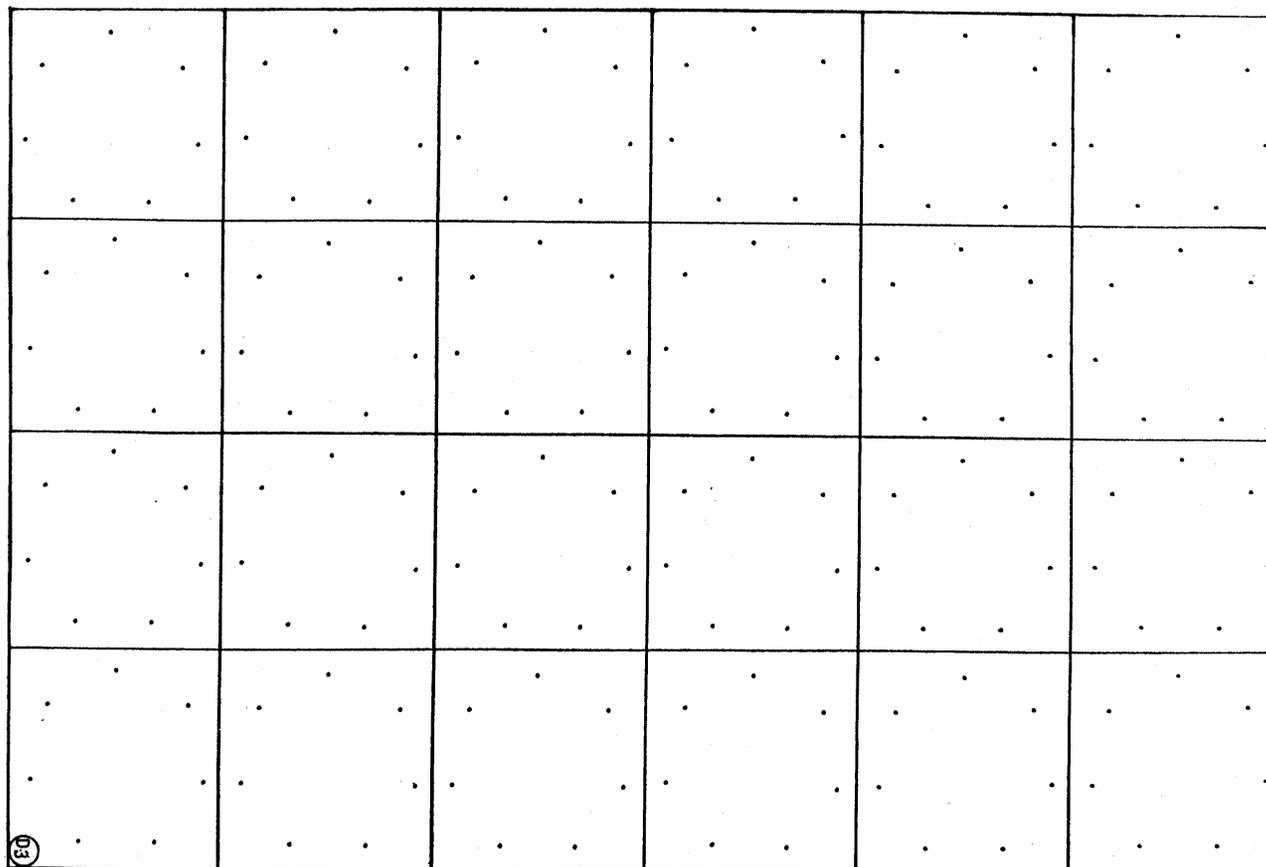
There are 24 STAR DESIGNS for a 7-point circle.

How many designs can you construct?

Which of your designs have line symmetry?

Which of them have point symmetry?

Which have line and point symmetry?



A.164

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