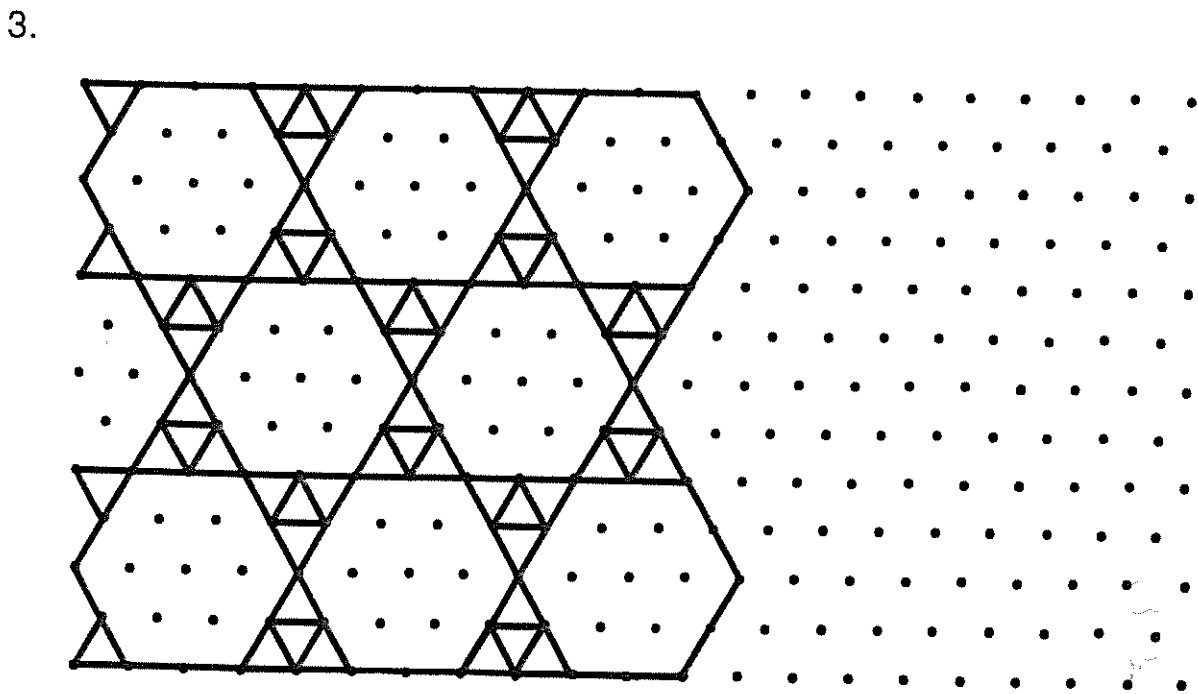
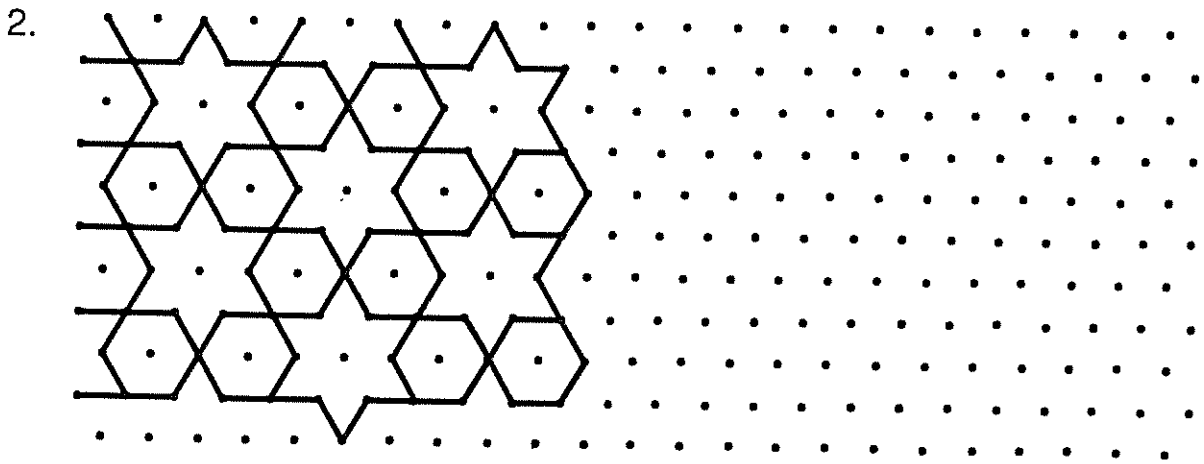
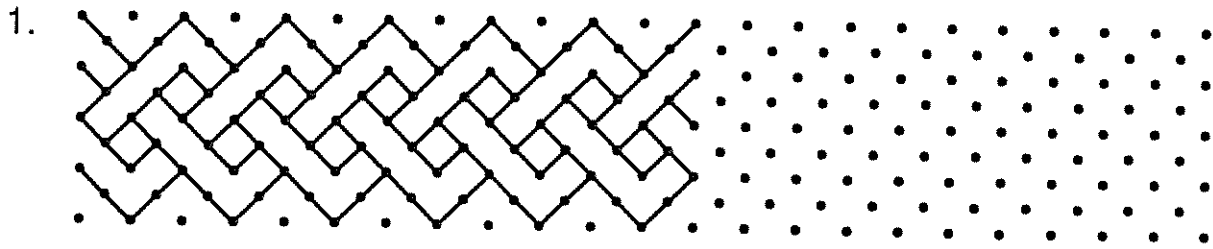


VISUAL PATTERNS (I)



Continue each pattern.



NUMBER JUGGLING (I)

Use any three of the four numbers 2, 3, 6, and 12 to make the number sentences true. Use each number you select only once in a problem.

1. $\bigcirc + \bigcirc + \bigcirc = 21$

2. $\bigcirc + \bigcirc - \bigcirc = 9$

3. $\bigcirc \times \bigcirc + \bigcirc = 20$

4. $\bigcirc \times \bigcirc - \bigcirc = 18$

5. $\bigcirc \times \bigcirc \times \bigcirc = 36$

6. $\bigcirc \times \bigcirc \div \bigcirc = 9$

7. $\bigcirc \times \bigcirc \div \bigcirc = 6$

8. $\bigcirc \div \bigcirc + \bigcirc = 5$

9. $\bigcirc \div \bigcirc - \bigcirc = 3$

10. $\bigcirc \div \bigcirc \div \bigcirc = 1$

11. $\bigcirc \div \bigcirc \div \bigcirc = 2$

12. $\bigcirc \times \bigcirc \div \bigcirc = 4$



REFLECT ON THIS



When a shape is reflected across a line of reflection, think of it as being flipped over. When reflected, the object retains the same shape. Also, if a point is connected with its reflected point, the line connecting the two points will be perpendicular to the line of reflection. In the example shown below, a triangle is reflected across the dotted line of reflection.

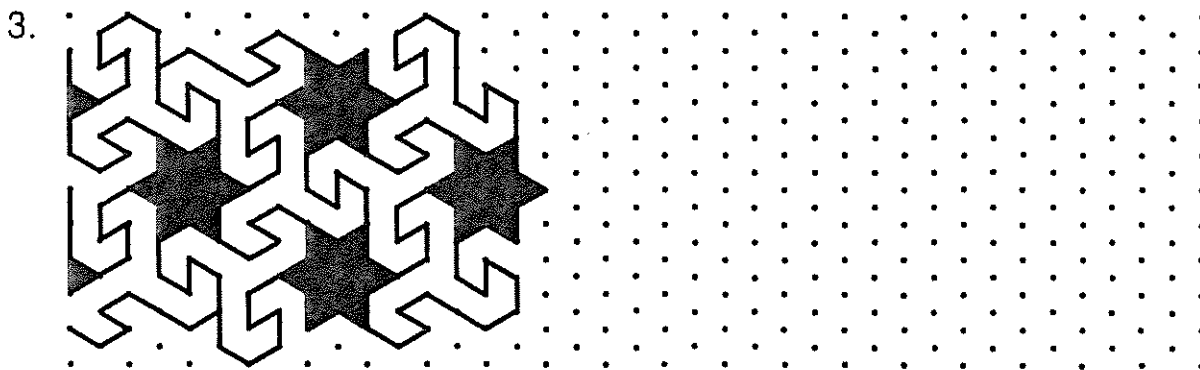
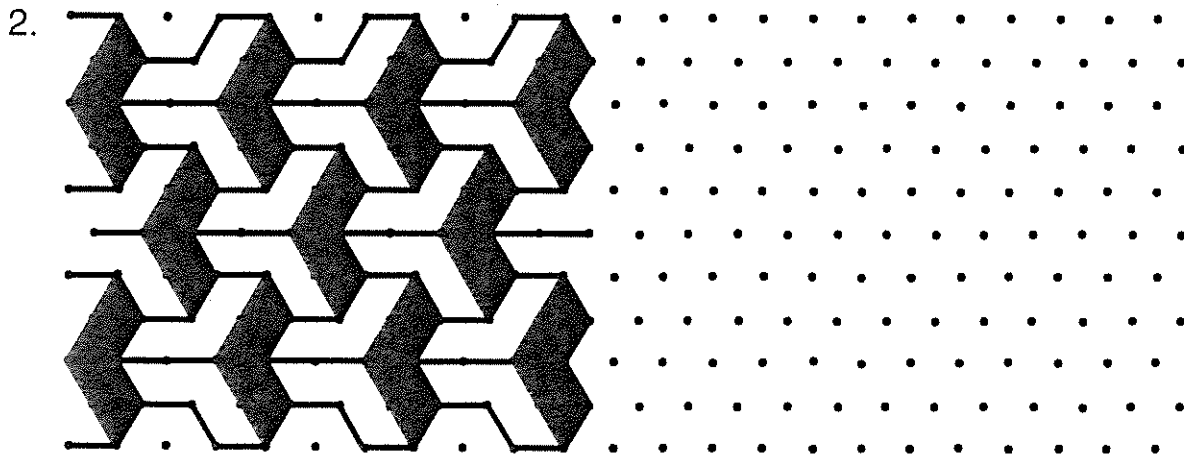
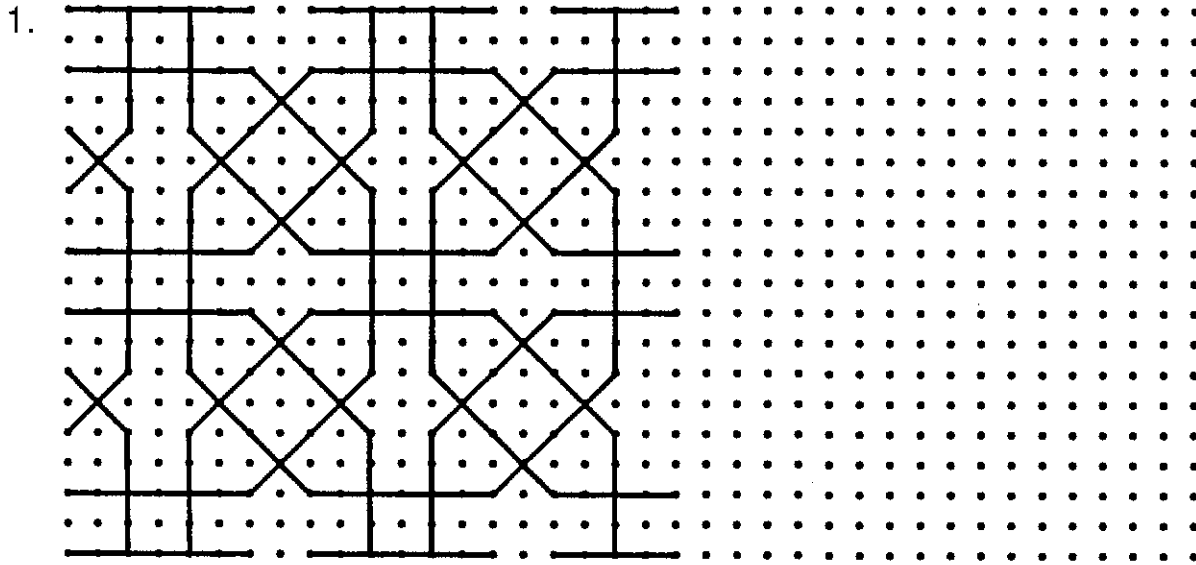
Draw a reflection of each of the twelve shapes below. Reflect your drawing across the given dotted line of reflection.

Example:

VISUAL PATTERNS (II)



Continue each pattern.




GEOMETRIC CONCLUSIONS




 A POLYGON is a closed, plane figure with sides that are line segments.


 A QUADRILATERAL is a polygon with four sides.

 A PARALLELOGRAM is a quadrilateral with two pairs of parallel sides.

 A TRAPEZOID is a quadrilateral with exactly one pair of parallel sides.

 A RECTANGLE is a quadrilateral with four right angles.

 A SQUARE is a rectangle with four equal sides.

 A RHOMBUS is an equilateral quadrilateral.

Complete each sentence below with the appropriate phrase:

can be

is always

is never

1. A parallelogram _____ a polygon.	16. A quadrilateral _____ a square.
2. A parallelogram _____ a rectangle.	17. A parallelogram _____ a rhombus.
3. A rectangle _____ a square.	18. A rhombus _____ a quadrilateral.
4. A quadrilateral _____ a rhombus.	19. A rectangle _____ a rhombus.
5. A trapezoid _____ a square.	20. A quadrilateral _____ a trapezoid.
6. A square _____ a rectangle.	21. A trapezoid _____ a parallelogram.
7. A rectangle _____ a parallelogram.	22. A square _____ a trapezoid.
8. A parallelogram _____ a square.	23. A rhombus _____ a rectangle.
9. A quadrilateral _____ a rectangle.	24. A rectangle _____ a trapezoid.
10. A square _____ a parallelogram.	25. A square _____ a rhombus.
11. A trapezoid _____ a rhombus.	26. A parallelogram _____ a trapezoid.
12. A rhombus _____ a parallelogram.	27. A rhombus _____ a trapezoid.
13. A parallelogram _____ a quadrilateral.	28. A trapezoid _____ a quadrilateral.
14. A rhombus _____ a square.	29. A quadrilateral _____ a parallelogram.
15. A trapezoid _____ a rectangle.	30. A polygon _____ a quadrilateral.

NUMBER JUGGLING (II)



Use any three of the four numbers 2, 4, 8, and 10 to make the number sentences true. Use each number only once in a problem.

1. $\bigcirc + \bigcirc - \bigcirc = 6$

2. $\bigcirc \times \bigcirc - \bigcirc = 12$

3. $\bigcirc \times \bigcirc + \bigcirc = 34$

4. $\bigcirc \times \bigcirc - \bigcirc = 22$

5. $\bigcirc \div \bigcirc + \bigcirc = 13$

6. $\bigcirc \div \bigcirc + \bigcirc = 12$

7. $\bigcirc \times \bigcirc \times \bigcirc = 64$

8. $\bigcirc \times \bigcirc \div \bigcirc = 5$

9. $\bigcirc \times \bigcirc \div \bigcirc = 16$

10. $\bigcirc \times \bigcirc \div \bigcirc = 4$

11. $\bigcirc \div \bigcirc - \bigcirc = 1$

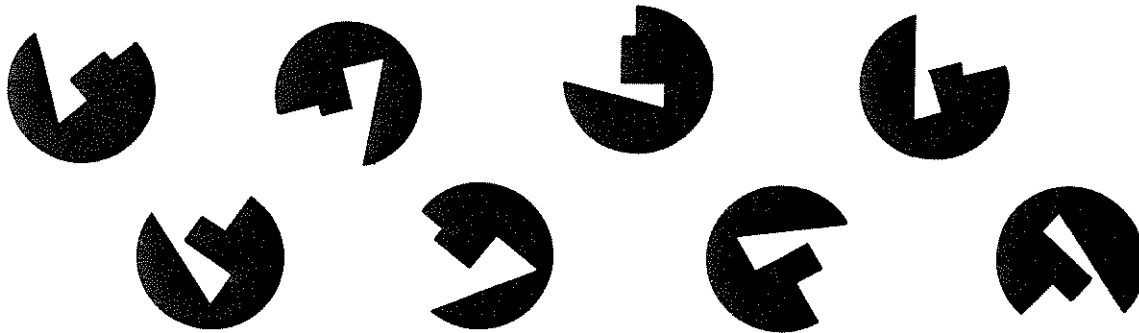
12. $\bigcirc \times \bigcirc \div \bigcirc = 40$



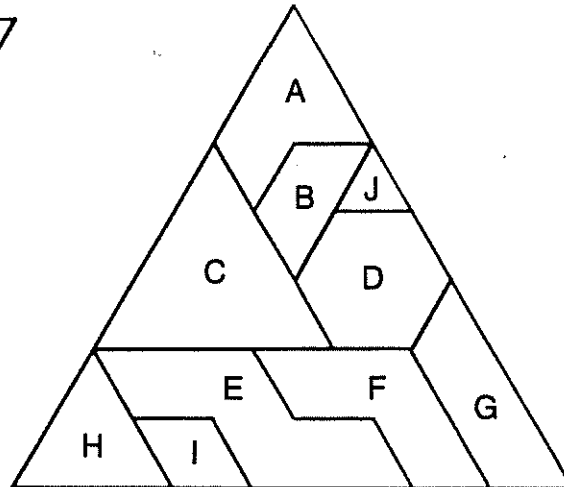
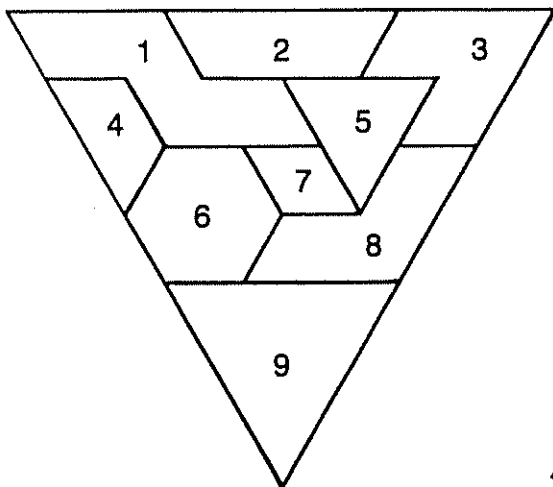
CRAZY CONGRUENT SHAPES



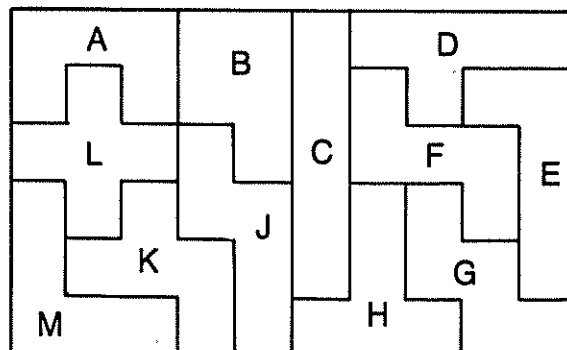
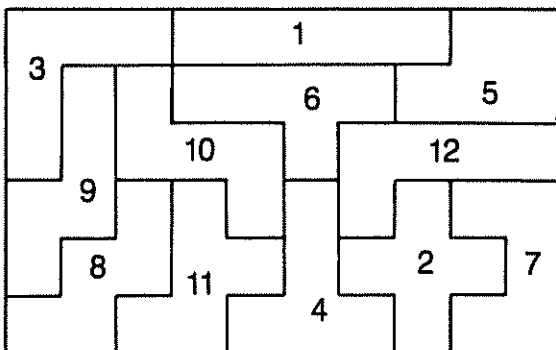
1. Which two shapes are congruent? Draw a ring around the two correct shapes.



2. If possible, match each numbered shape with its congruent lettered shape. Write the correct letter next to the number.



3. Match each numbered shape with its congruent lettered shape. Write the correct letter next to the number. Some shapes may be flipped.



What Is the Best Way To Become an Astronaut?



Choose the correct answer for each exercise and circle the number-letter pair next to it. Write the letter in the matching numbered box at the bottom of the page.

Set 1. Simplify.

- a. $12 + (5 - 9)$ d. $(-5)(-4)(-18)$
 b. $-7(-1 + 8)$ e. $16 - (-3 - 8)$
 c. $20 - (-3) + 15$ f. $[-2 - (-9)] + 75$

Set 1 Answers

- 26 • S** 27 **19 • T** -420
23 • J -45 **21 • E** 38
16 • D 8 **9 • F** 92
14 • A 82 **8 • C** -49
30 • B 30 **5 • O** -360

Set 2. Simplify.

- a. $(-3 \cdot 4) + (-4 \cdot 3)$ d. $100 - (-50) + (-25)$
 b. $(21 - 30)(-12 + 1)$ e. $(-30 - 30) \div (-5)$
 c. $(-5)^3(-1)^{10}$ f. $(-64 \div 8) + (-81 \div 9)$

Set 2 Answers

- 19 • A** 99 **2 • O** -125
30 • E 12 **28 • I** 110
12 • T -20 **23 • U** -24
18 • R -9 **15 • N** -17
9 • H 125 **24 • S** 15

Set 3. Simplify.

- a. $\frac{-13 + 5}{13 - 15}$ d. $\frac{-140}{14} + \frac{140}{-10}$
 b. $(-2)^4(-10)^2$ e. $5(-3)^3$
 c. $\frac{(-8)(-8)}{-8 + (-8)}$ f. $\frac{-77}{-7} - \frac{99}{-99}$

Set 3 Answers

- 4 • D** -30 **10 • O** 4
12 • L -4 **24 • P** -135
18 • T 12 **20 • V** -140
11 • R 15 **28 • A** 1600
1 • G -24 **29 • G** 2000

Set 4. Evaluate if $a = -5$, $b = -8$, and $c = 2$.

- a. abc d. $2b - (-c)$
 b. $3a - b$ e. $cb^2 + a$
 c. $\frac{-a^2 + 1}{4c}$ f. $\frac{(ac)^3}{5b}$

Set 4 Answers

- 11 • O** -7 **6 • N** -20
20 • K 123 **7 • S** -14
25 • E 130 **27 • P** 25
4 • T 80 **22 • R** -11
17 • I -80 **29 • C** -3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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