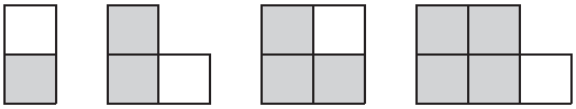
Name _____ **Hour** _____

Sketch the next figure in the pattern.

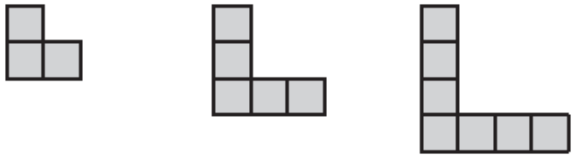
1. 

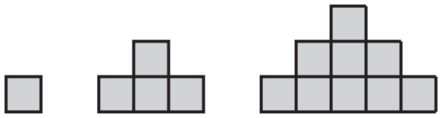
2. 

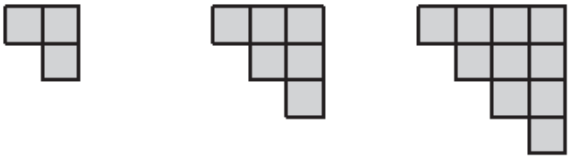
3. 

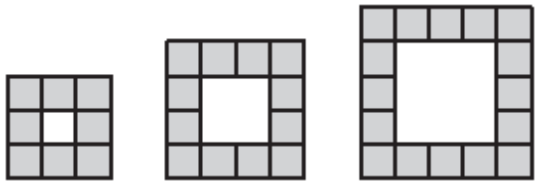
4. 

The first three objects in a pattern are shown. How many squares are in the next object?

5. 

6. 

7. 

8. 

Predict the next two numbers in the sequence of numbers. Describe a pattern in the sequence of numbers.

9. 2, 9, 16, 23, 30, . . .

10. 81, 27, 9, 3, 1, . . .

11. 4, 5, 7, 10, 14, . . .

12. 1, 4, 9, 16, 25, . . .

13. 3, 15, 75, 375, 1875, . . .

14. 100, 98, 94, 88, 80, . . .

15. –50, –45, –35, –20, 0, . . .

16. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $\frac{5}{4}$, . . .

Inductive Reasoning

Show the conjecture is false by finding a counterexample.

17. All prime numbers are odd.

18. If the product of two numbers is positive, then the two numbers must both be positive.

19. The quotient of two whole numbers is a whole number.

20. The square root of a number x is always less than x.

Write the contrapositive of the following statement.

21. If three points are not collinear, then they form a triangle.

22. If a polygon is concave, then it is not regular.

Write the converse of the following statement.

23. If two angles are supplementary angles, then they have a sum of 180°.

24. If an angle is a right angle, then the sides of the angle are perpendicular.

Write the inverse of the following statement.

25. If a triangle is a right triangle, then it is not equiangular.

26. If a triangle is not equilateral, then it is not regular.