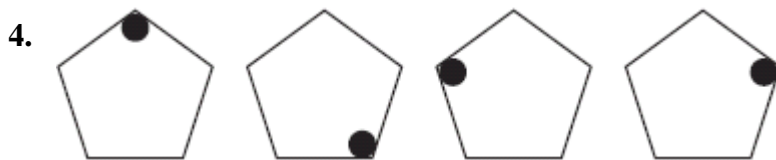
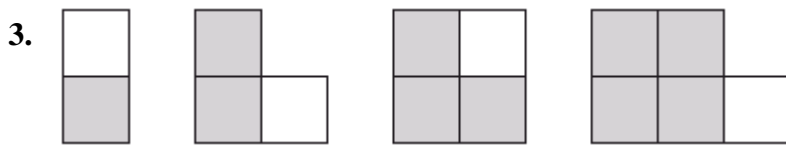


Name _____

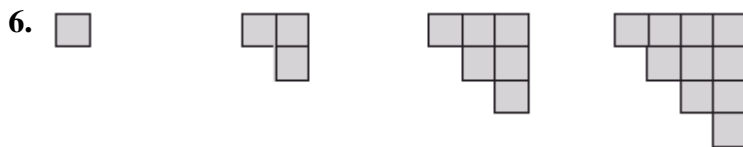
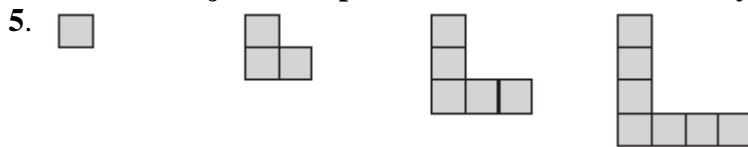
Date _____

Assignment 10 LESSON 2.1

Sketch the next figure in the pattern.



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



Describe a pattern in the numbers. Write the next number in the pattern.

7. 26, 23, 20, 17, 14, ...

8. 2, 6, 18, 54, ...

9. -12, -8, -4, 0, ...

10. 3, -9, 27, -81, ...

Complete the conjecture based on the pattern you observe in the specific cases.

11. Use the following products of odd integers to complete the conjecture about the product of any two odd numbers: $1 \times 3 = 3$, $1 \times 5 = 5$, $3 \times 3 = 9$, $3 \times 5 = 15$, $5 \times 1 = 5$, $5 \times 5 = 25$, $5 \times 7 = 35$, $7 \times 1 = 7$, $7 \times 3 = 21$, $7 \times 7 = 49$

Conjecture The product of any two odd integers is ?.

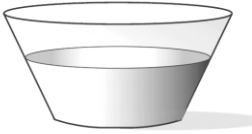
Show the conjecture is false by finding a counterexample.

13. The average of any two consecutive even numbers is an even number.

14. Any four-sided polygon is a square.

15. The square of any integer is a positive integer.

- 16. Evaporation** You are performing an experiment to explore the effects of surface area on evaporation. Each day you record the depth (in millimeters) of the water in the bowl pictured. The table below shows your results.



Day	0	1	2	3	4	5
Water level (mm)	180	169	158	147	136	125

- a. Predict the height of the water surface in the bowl on day 6.
- b. Based on these results, make a conjecture about how the surface area of a body of water affects the rate of change of its depth by evaporation.

Answer Key

Lesson 2.1

Practice Level A

1.



2.



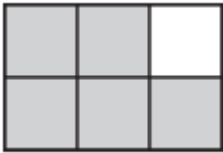
3.



4.



5.



6.



7.



8. 9

9. 15

10. add 5 to previous term; 25

11. subtract 3 from previous term; 11

12. multiply previous term by 3; 162

13. divide previous term by 2; 2

14. add 4 to previous term; 4

15. multiply previous term by -3 ; 243

16. an odd integer

17.

3, 5	5, 7	7, 9	9, 11
$\frac{3+5}{2}$	$\frac{5+7}{2}$	$\frac{7+9}{2}$	$\frac{9+11}{2}$
4	6	8	10

the even number between the consecutive odd numbers

18. *Sample answer:* $\frac{2+41}{2} = 3$, 3 is not even.

19. *Sample answer:*  is not a square.

20. *Sample answer:* 0^2 is not a positive integer.

21. a. 114

b. conjecture: The rate of change of depth of a body of water is not affected by the surface area.