

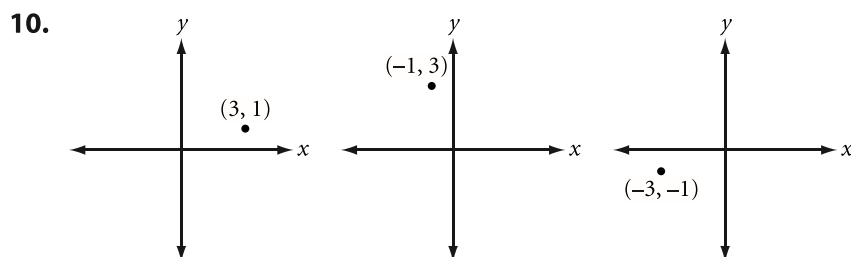
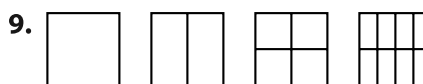
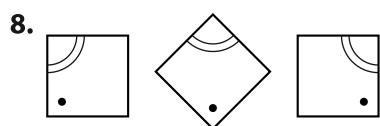
Lesson 2.1 • Inductive Reasoning

Name _____ Period _____ Date _____

For Exercises 1–7, use inductive reasoning to find the next two terms in each sequence.

1. 4, 8, 12, 16, _____, _____
2. 400, 200, 100, 50, 25, _____, _____
3. $\frac{1}{8}, \frac{2}{7}, \frac{1}{2}, \frac{4}{5},$ _____, _____
4. $-5, 3, -2, 1, -1, 0,$ _____, _____
5. 360, 180, 120, 90, _____, _____
6. 1, 3, 9, 27, 81, _____, _____
7. 1, 5, 14, 30, 55, _____, _____

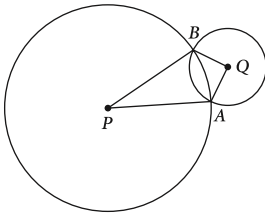
For Exercises 8–10, use inductive reasoning to draw the next two shapes in each picture pattern.



For Exercises 11–13, use inductive reasoning to test each conjecture. Decide if the conjecture seems true or false. If it seems false, give a counterexample.

11. The square of a number is larger than the number.
12. Every multiple of 11 is a “palindrome,” that is, a number that reads the same forward and backward.
13. The difference of two consecutive square numbers is an odd number.

11. Kite

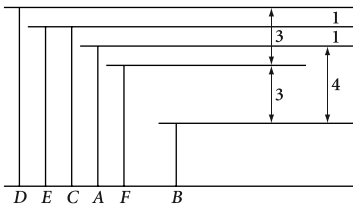


LESSON 1.8 • Space Geometry

- 1.
- 2.
3. Rectangular prism
4. Pentagonal prism
- 5.
- 6.
7. 18 cubes
8. $x = 2, y = 1$

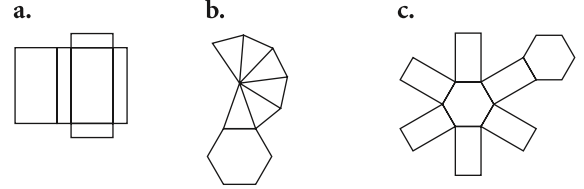
LESSON 1.9 • A Picture Is Worth a Thousand Words

- 1.
2. Dora, Ellen, Charles, Anica, Fred, Bruce



- 3.

4. Possible answers:



LESSON 2.1 • Inductive Reasoning

1. 20, 24
2. $12\frac{1}{2}, 6\frac{1}{4}$
3. $\frac{5}{4}, 2$
4. -1, -1
5. 72, 60
6. 243, 729
7. 91, 140
- 8.
- 9.
- 10.

11. False; $\left(\frac{1}{2}\right)^2 = \frac{1}{4}$
12. False; $11 \cdot 10 = 110, 11 \cdot 12 = 132$
13. True

LESSON 2.2 • Finding the n th Term

1. Linear
2. Linear
3. Not linear
4. Linear
5.

n	1	2	3	4	5
$f(n)$	-5	2	9	16	23
6.

n	1	2	3	4	5
$g(n)$	-10	-18	-26	-34	-42
7. $f(n) = 4n + 5; f(50) = 205$
8. $f(n) = -5n + 11; f(50) = -239$
9. $f(n) = \frac{1}{2}n + 6; f(50) = 31$