Inductive Reasoning – Practice

Find a pattern for each sequence. Use that pattern to determine the next two terms.

1. 5, 11, 18, 26, . . .
3. −3, 6, −12, 24, −48, . . .
4. 1, 5, 30, 210, 1680, . . .

5. [Diagram of shapes]

6. Use inductive reasoning to make a conjecture about the sequence below:

Sequence A: [Diagram of shapes]

   a) How many sides does the fifth figure in Sequence A have?
   b) How many sides does the tenth figure in Sequence A have?
   c) How many sides does the fourteenth figure in Sequence A have?

7. Use inductive reasoning to make a conjecture about the sequence below:

Sequence B: −5, 4, −2, −5, 4, −2, −5, 4, −2, . . .

   a) What is the tenth term of Sequence B?
   b) What is the fifteenth term of Sequence B?
Finish writing the conjecture for each scenario. Show your work.

8. The square of an odd number is an ___________ number.

9. The cube of a negative number is a ___________ number.

10. The product of two even numbers is an _________ number.

11. The sum of two odd numbers is an ___________ number.

Find a pattern for each sequence. Use that pattern to determine the next two terms.

12. 3, 5, 9, 17, . . .

13. 1, 4, 6, 24, 26, . . .

14. 5, 3, 9, 7, 21, . . .

15. 1, −2, 2, −4, 0, . . .

16. 0.3, −0.09, 0.0027, . . .

17. \[\frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \ldots\]

18. 2, 3, 5, 8, 13, 21, . . .

19. 4, 7, 12, 19, 28, . . .