

Practice 1-1

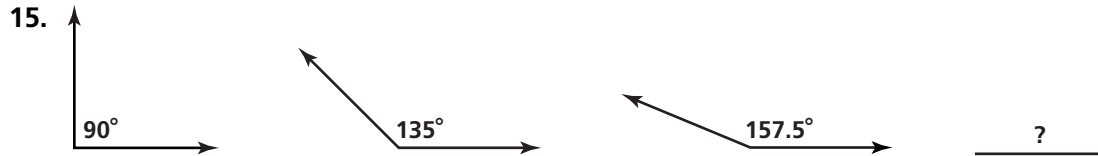
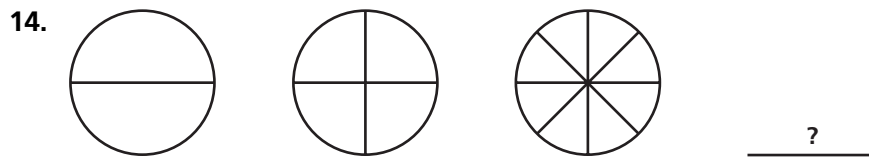
Find a pattern for each sequence. Use the pattern to show the next two terms.

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|----------------------------|-----------------------------|--------------------------------|
| 1. 17, 23, 29, 35, 41, ... | 2. 1.01, 1.001, 1.0001, ... | 3. 12, 14, 18, 24, 32, ... |
| 4. 2, -4, 8, -16, 32, ... | 5. 1, 2, 4, 7, 11, 16, ... | 6. 32, 48, 56, 60, 62, 63, ... |

Name two different ways to continue each pattern.

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| 7. 1, 1, 2, ? | 8. 48, 49, 50, ? | 9. 2, 4, ? |
| 10. A, B, C, ..., Z, ? | 11. D, E, F, ? | 12. A, Z, B, ? |

Draw the next figure in each sequence.



Seven people meet and shake hands with one another.

- How many handshakes occur?
- Using inductive reasoning, write a formula for the number of handshakes if the number of people is n .

The Fibonacci sequence consists of the pattern 1, 1, 2, 3, 5, 8, 13, ...

- What is the ninth term in the pattern?
- Using your calculator, look at the successive ratios of one term to the next. Make a conjecture.
- List the first eight terms of the sequence formed by finding the differences of successive terms in the Fibonacci sequence.