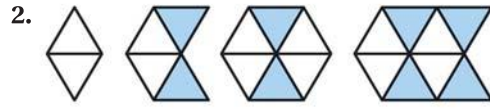
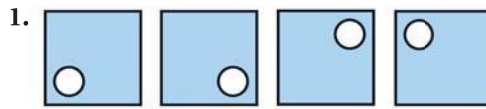


2

CHAPTER TEST

Sketch the next figure in the pattern.



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

3. $-6, -1, 4, 9, \dots$

4. $100, -50, 25, -12.5, \dots$

In Exercises 5–8, write the if-then form, the converse, the inverse, and the contrapositive for the given statement.

5. All right angles are congruent.

6. Frogs are amphibians.

7. $5x + 4 = -6$, because $x = -2$.

8. A regular polygon is equilateral.

9. If you decide to go to the football game, then you will miss band practice. Tonight, you are going the football game. Using the Law of Detachment, what statement can you make?

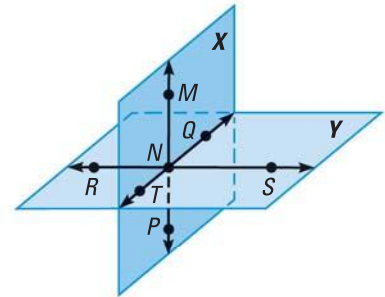
10. If Margot goes to college, then she will major in Chemistry. If Margot majors in Chemistry, then she will need to buy a lab manual. Using the Law of Syllogism, what statement can you make?

Use the diagram to write examples of the stated postulate.

11. A line contains at least two points.

12. A plane contains at least three noncollinear points.

13. If two planes intersect, then their intersection is a line.



Solve the equation. Write a reason for each step.

14. $9x + 31 = -23$

15. $-7(-x + 2) = 42$

16. $26 + 2(3x + 11) = -18x$

In Exercises 17–19, match the statement with the property that it illustrates.

17. If $\angle RST \cong \angle XYZ$, then $\angle XYZ \cong \angle RST$.

A. Reflexive Property of Congruence

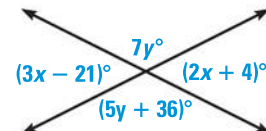
18. $\overline{PQ} \cong \overline{PQ}$

B. Symmetric Property of Congruence

19. If $\overline{FG} \cong \overline{JK}$ and $\overline{JK} \cong \overline{LM}$, then $\overline{FG} \cong \overline{LM}$.

C. Transitive Property of Congruence

20. Use the Vertical Angles Congruence Theorem to find the measure of each angle in the diagram at the right.



21. Write a two-column proof.

GIVEN $\triangleright \overline{AX} \cong \overline{DX}, \overline{XB} \cong \overline{XC}$

PROVE $\triangleright \overline{AC} \cong \overline{BD}$

