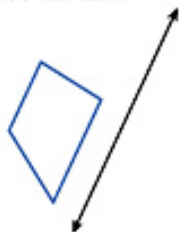


Chapter 12 Skills Practice

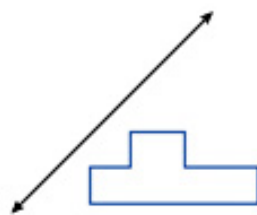
Lesson 12-1

Copy each figure and the line of reflection. Draw the reflection of the figure across the line.

1.



2.



Reflect the figure with the given vertices across the given line.

3. $A(-4, 1), B(2, 4), C(3, -2)$; x -axis

4. $D(3, 1), E(2, 4), F(-2, 2), G(2, -2)$; $y = x$

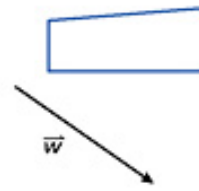
Lesson 12-2

Copy each figure and the translation vector. Draw the translation of the figure along the given vector.

5.



6.



Translate the figure with the given vertices along the given vector.

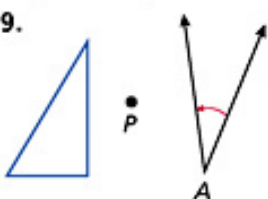
7. $A(-2, 1), B(4, 3), C(2, -2)$; $\langle 2, 3 \rangle$

8. $D(-1, 3), E(2, 4), F(3, 3), G(3, -2)$; $\langle 2, -2 \rangle$

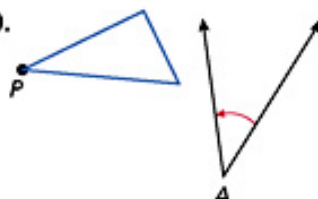
Lesson 12-3

Copy each figure and the angle of rotation. Draw the rotation of the figure about the point P by $m\angle A$.

9.



10.



Rotate the figure with the given vertices about the origin using the given angle of rotation.

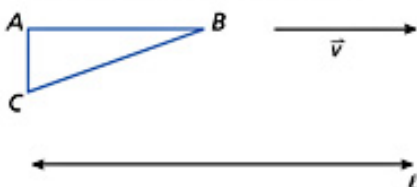
11. $A(2, 3), B(-2, 1), C(1, -1)$; 90°

12. $D(-2, 3), E(2, 4), F(3, 1), G(-2, 2)$; 180°

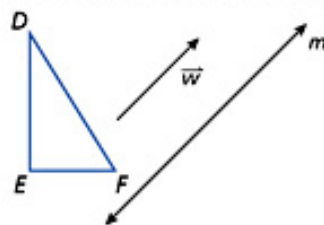
Lesson 12-4

Draw the result of each composition of isometries.

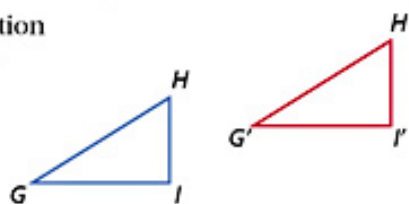
13. Translate $\triangle ABC$ along \vec{v} and then reflect it across line ℓ .



14. Reflect $\triangle DEF$ across line m and then translate it along \vec{w} .



15. Copy the figure and draw two lines of reflection that produce an equivalent transformation.



Lesson
12-5

Describe the symmetry of each figure. Copy the shape and draw all lines of symmetry. If there is rotational symmetry, give the angle and order.

16.



17.

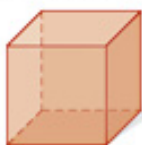


18.



Tell whether each figure has plane symmetry, symmetry about an axis, or neither.

19.



20.



21.



Lesson
12-6

Copy the given figure and use it to create a tessellation.

22.



23.



24.

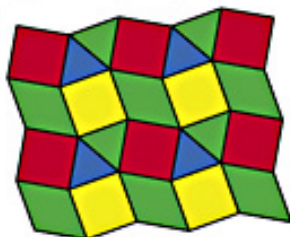


Classify each tessellation as regular, semiregular, or neither.

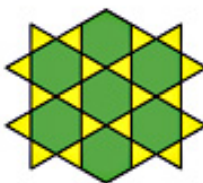
25.



26.



27.



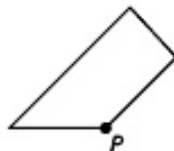
Lesson
12-7

Copy each figure and center of dilation P . Draw the image of the figure under a dilation with the given scale factor.

28. scale factor: 3



29. scale factor: $-\frac{2}{3}$



Draw the image of the figure with the given vertices under a dilation with the given scale factor centered at the origin.

30. $A(1, 3), B(1, 5), C(4, 3)$; scale factor 2

31. $E(-2, 2), F(2, 4), G(4, -2)$; scale factor $-\frac{1}{2}$