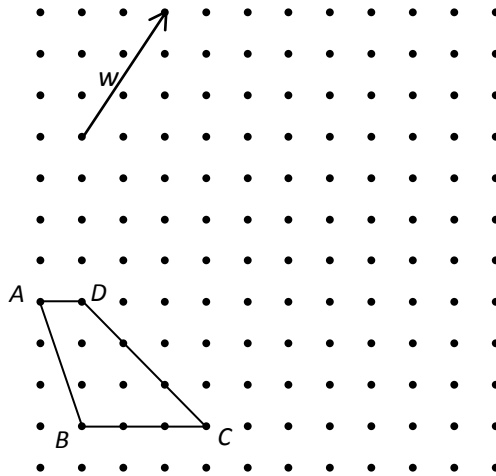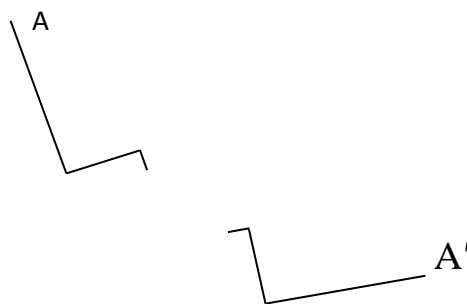**22.2**

On the dot grid below, carefully sketch the image of the quadrilateral *ABCD* for a translation

that maps with vector *w*.  Label the image *A′B′C′D′*.

**22.3**

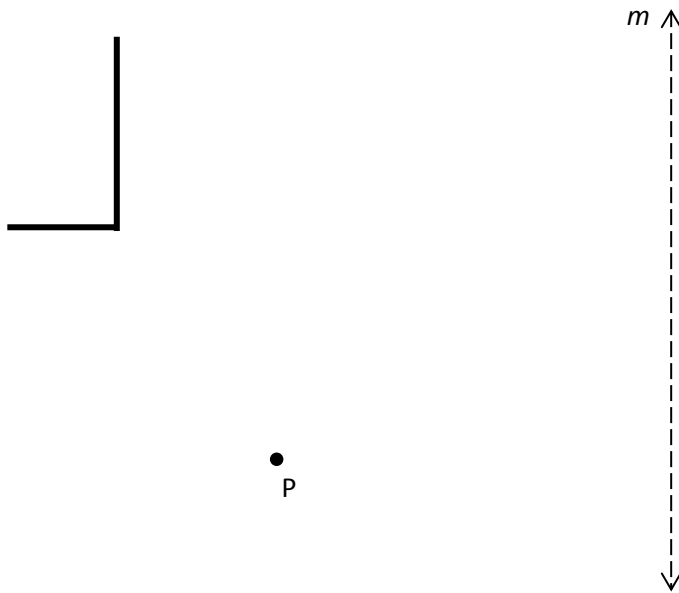Find and name the single rigid motion that would take A to A′.  Briefly describe your process.

**22.4**

Find the composition of the two rigid motions:

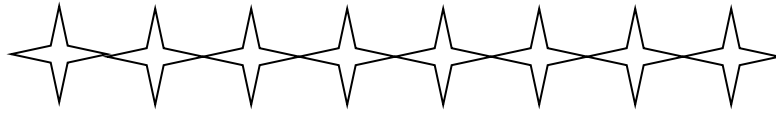（reflection in line *m*) o (clockwise rotation of 70° with center P).

   Mark your final image *F*.



Which single rigid motion would take the original figure to *F*?

_____

**22.5**

Identify and describe all the symmetries possible for the diagram shown. Assume that the pattern continues to the right and left indefinitely. Two answers are completed already.



**Rotation:**      **no**     [**yes**]     180° with center of rotation at the center of any star or at the point where stars touch

**Translation: no**     [**yes**]     horizontally to the left or right the width of a star or any number of stars

**Reflection:**     **no**     **yes**

**Glide-reflection:**     **no**     **yes**

Suppose the scale factor relating two similar polyhedra is 6. Determine the volume of the larger polyhedron if the smaller polyhedron has a volume of 15 cm$^3$.
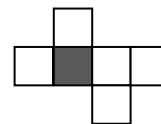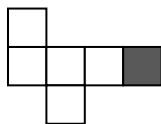
         *A.* 3375 cm$^3$

         *B.* 3240 cm$^3$
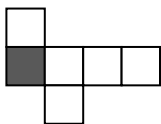
         *C.* 540 cm$^3$

         *D.* 1350 cm$^3$

         *E.* 90 cm$^3$

**22.6**

Suppose that the lower half of a cube is painted. Finish shading each net so that it could fold up to make a half-painted cube. The bottom face of the cube is already shaded in each net.

**23.1**

Sections of garden edging come in sections 27 inches long and cannot be bent.  How many
sections would be needed to surround a flower garden shaped like the drawing below.
Assume that pieces less than 6 in. long are too short to be useful.  Show and label all steps of
your work.  Present your work in an orderly fashion.

```
                    2 ft 2 in.
     23 in.
                                    2 ft 10 in.

   35 in.
                        1 yd 6 in.
```
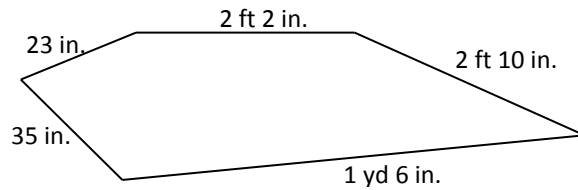
Select the most appropriate unit from A-C for measuring each characteristic listed below.

       A.  cubic centimeters      B.  centimeters      C.  square centimeters

_____ A sector of a circle      _____ How far a child can throw a ball

_____ How much of an apple you ate      _____ The surface area of a cube

_____ The length of the pencil you are using

**23.2**

Use the information given about the angles of triangles I, II, and III to determine which, if any,
of the triangles are similar.

    I) $70°$ and $45° \, 50'$    II) $64° \, 10'$ and $45° \, 50'$    III) $70°$ and $64° \, 50'$

    *A.*  I and II only

    *B.*  II and III only

    *C.*  I and III only

    *D.*  I, II and III
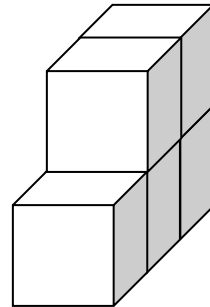
    *E.* No similarity exists

**24.1**

A polygon has a perimeter of 18 centimeters with each side having a length that is a whole
 number of centimeters.  For the given polygon, list all possible combinations of  lengths.

Rectangle

Triangle with one side having length 6 cm

**24.1/2**

Determine the volume and surface area of the shape shown if the cubes are 1 ft on each edge.



Volume: _____

Surface area: _____

What is the volume in **cubic yards**?  _____ yd$^3$

**24.2**

Complete the following conversions.  Do not use decimals in your work or answers.

a. $2\frac{1}{2}$ pt = _____ qt

b. $1\frac{1}{3}$ gal = _____ qt

c.  5 tsp = _____ Tbsp

d.  3 c = _____ gal

**25.1**

What is the area of a rectangle with perimeter 20 meters and base 6 meters?

What is the area and perimeter of the figure shown?  Include $\pi$ in your answer, as needed

.