

So Many Flags

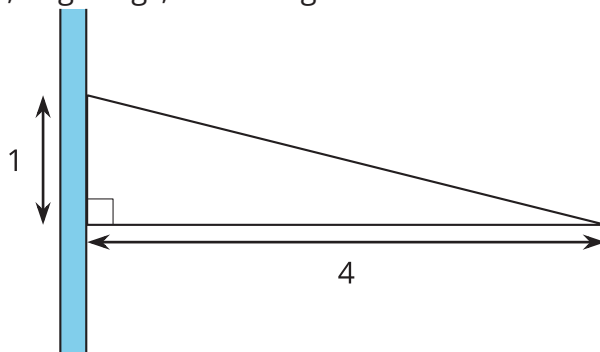


Task Statement 1

The Constitution of Nepal includes instructions for constructing the flag.

- Step 1: Draw a line segment AB of the required length. Segment AB will be the bottom edge of the flag.
- Step 2: Draw a line segment AC perpendicular to segment AB so that the length of segment AC is $\frac{4}{3}$ the length of segment AB .
- Step 3: Mark point D on line segment AC so that segment AD is the same length as segment AB . Then join points B and D with a line segment.
- Step 4: Mark point E on line segment BD so that segment BE is the same length as segment AB .
- Step 5: Draw a line segment, FG , that goes through point E and is parallel to and the same length as segment AB . Point F should be on line segment AC .
- Step 6: Join points C and G , with a line segment.

- 1.
 - a. Construct the flag according to the instructions. You can make it any size you want.
 - b. Find the measurement of each angle in the flag.
- 2. Imagine there is a parade featuring the flag of Nepal. There are small flags and large flags in the parade. Decide on the size of each type of flag.
 - a. How much material is needed to make each type of flag?
 - b. If the border of a flag is made by sewing a ribbon along its edge, how long is the ribbon for each type of flag?
- 3. Imagine a parade featuring a flag that is meaningful to you. (Choose a flag or design your own.) At the parade, there are small flags, large flags, and triangular banners such as this:
 - a. How can you adapt your flag to fit on the triangular shape?
 - b. How much material of each color do you need for each kind of flag?



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Task Statement 2

The Constitution of Nepal includes instructions for constructing the flag.

- Step 1: Draw a line segment AB of the required length. Segment AB will be the bottom edge of the flag.
- Step 2: Draw a line segment AC perpendicular to segment AB so that the length of segment AC is $\frac{4}{3}$ the length of segment AB .
- Step 3: Mark point D on line segment AC so that segment AD is the same length as segment AB . Then join points B and D with a line segment.
- Step 4: Mark point E on line segment BD so that segment BE is the same length as segment AB .
- Step 5: Draw a line segment, FG , that goes through point E and is parallel to and the same length as segment AB . Point F should be on line segment AC .
- Step 6: Join points C and G , with a line segment.

1. Clare is constructing the flag, and she starts with segment AB of length 6 inches.

Here is her finished flag shape. Use the instructions to fill in as many lengths and angles as you can.



2. Imagine there is a parade featuring the flag of Nepal. There are small flags and large flags. Decide on the size of one type of flag.
 - a. How much material is needed to make the flag?
 - b. If the border of a flag is made by sewing a ribbon along its edge, how long is the ribbon?

3. Imagine a parade featuring a flag that is meaningful to you. (Choose a flag or design your own.) At the parade, there are rectangular flags, and triangular banners such as this:

- a. How can you adapt your flag to fit on the triangular shape?
- b. How much material of each color is needed for each kind of flag?

