

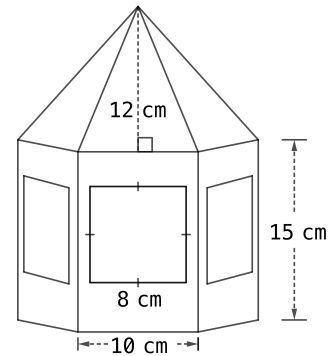


## Problem of the Week

### Problem B

### Painting a Birdhouse

Bird feeders come in many shapes and sizes. Meera has one with a pentagonal base, five identical rectangular sides, and five identical triangles that meet at a point forming the roof. Each rectangular side has a width of 10 cm, a height of 15 cm, and a square window of side length 8 cm. Each triangle has a height of 12 cm and its base lines up with the top width of one of the rectangular sides.



- What is the total area of the five windows in the feeder?
- Meera has decided to paint the outer faces of the triangular roof segments and the outer sides of the feeder (except the windows), but not the base. What is the total surface area of the parts of the feeder Meera intends to paint?
- Suppose you can purchase a 100 mL can of paint for \$3.50 which will cover  $10\,000\text{ cm}^2$  of surface area. If Meera does two coats of paint on each pentagonal bird feeder, how many complete pentagonal bird feeders can be painted by one of these cans of paint?