

Name _____

Geometry Word Problems

1. In a quaint town, Emma wants to build a circular fountain in the town square with a radius of 15 meters. If the town council requires a walkway surrounding the fountain, extending 5 meters from the edge, what will be the total area of the walkway?
2. In a futuristic city, Jake needs to design a pentagonal prism-shaped building with a base perimeter of 60 meters. If the apothem of each pentagonal face is 8 meters, what will be the total surface area of the building, excluding the top and bottom faces?
3. Sarah wants to construct a regular hexagonal garden with a perimeter of 120 meters in her backyard. If each side of the hexagon is bordered by a flower bed 1.5 meters wide, what will be the total area of the flower beds?
4. In an art installation, Mia is tasked with creating a sculpture of a cone with a radius of 10 meters and a slant height of 20 meters. If she wishes to paint the entire outer surface, what will be the total surface area of the cone?
5. In a coastal city, Jason plans to build a lighthouse with a cylindrical tower. If the diameter of the tower is 12 meters and its height is 40 meters, how much concrete will be needed to construct the tower, given that 1 cubic meter of concrete costs \$100?
6. Emily is designing a playground in the shape of a trapezoid with bases measuring 20 meters and 30 meters, and a height of 15 meters. If she wants to install rubber mulch throughout the playground at a depth of 0.5 meters, how many cubic meters of mulch will be required?
7. In a city park, Lucas wants to install a hemispherical dome-shaped gazebo with a diameter of 8 meters. If the height of the dome is also 8 meters, what will be the total surface area of the gazebo, including the floor?
8. A city planner is designing a new traffic roundabout in the shape of a regular octagon. If the distance from the center to each vertex is 10 meters, what will be the total area of the central garden inside the roundabout?
9. Sophie is painting a mural on the wall of her school gym, which is in the shape of a rectangle measuring 20 meters by 30 meters. If she wants to cover only 80% of the wall with the mural, how many square meters will remain unpainted?
10. Mark is tasked with installing a fence around a semi-circular garden with a diameter of 24 meters. If the fence costs \$5 per meter, how much will it cost to install the fence, excluding the gate?

