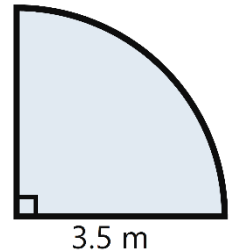


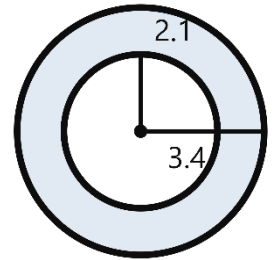
BC Numeracy 10 Exam Practice – Area 2

- 1) The interior grassy region of a small training track is shaped like a circle with: radius = 26 m.
- Find the area of the grassy interior.**
 - If seeding grass costs \$4.80 per m^2 , estimate the cost.**

- 2) A large rainwater-collection umbrella forms a quarter circle with radius 3.5 m.
- What is the catchment area?**
 - If 12 mm of rain falls, how many litres of water does the umbrella collect? (1 mm of rain = 1 L per m^2)**



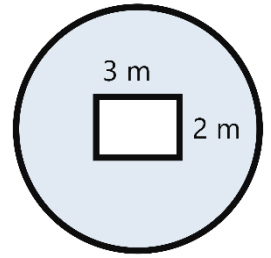
- 3) A circular fence surrounds a protected tree. The radius is 2.1 m. The city wants to add a buffer ring of mulch around the fence, extending the radius to 3.4 m.
- What is the area of the mulch region only?**
 - If mulch costs \$18 per m^2 , what is the cost?**



- 4) Archaeologists uncover a circular pit house with a diameter of 6.4 m. They estimate that each adult requires 2.2 m^2 of usable floor space. Inside the pit house is a central fire area taking up a 1.2 m radius circle that cannot be used for living space.
- Calculate the usable floor area.**
 - Estimate how many adults could have lived in the pit house.**
- 5) A village has seven pit houses with the following diameters (m): 4.6, 5.2, 5.2, 6.8, 7.1, 8.0, and 6.3. Each family requires 14 m^2 of usable floor space. Assume 15% of each house's area was used for storage and cannot be occupied.
- Calculate the number of whole families each individual pit house can accommodate**
 - Find the total number of families that the village could support.**
- 6) A community can build either: A circular ice rink with diameter 28 m, or A rectangular rink measuring 22 m by 18 m.
- Which option has the larger skating area?**
 - By how much?**

- 7) A circular greenhouse has a radius of 4.3 m. A rectangular tool shed $2\text{ m} \times 3\text{ m}$ is placed inside the greenhouse.

- a) **What fraction of the greenhouse floor area is still available for plants?**
b) **If each planter bed requires 1.2 m^2 , how many beds fit?**



- 8) A summer camp builds a raft composed of: A $3\text{ m} \times 3\text{ m}$ wooden square, and A semicircle attached on one side with diameter 3 m.

- a) **What is the raft's total area?**
b) **If each camper needs 0.6 m^2 , how many campers could fit based on floor area alone?**

- 9) You have two garden layout options: A circular garden with radius 2.5 m. A square garden whose side length is chosen so that its perimeter matches the circumference of the circle. **Which garden has the greater area, and by how much?**