Surface area of cones and spheres worksheet – Grade 9

Grade 9 · Mixed level · 20 questions · **Version X6157**

Name: _____ Date: _____ Score: ___ / 20

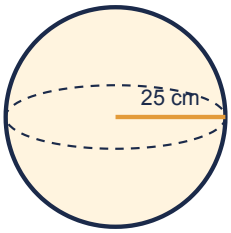
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1. Find the curved area of a cone with radius 16 cm and slant height 34 cm, in terms of π.

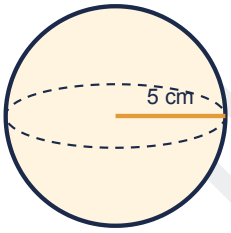
   A. $544\pi \text{ cm}^2$ **B.** $256\pi \text{ cm}^2$ **C.** $1088\pi \text{ cm}^2$ **D.** $1156\pi \text{ cm}^2$

2. What is the surface area of a sphere with radius 25 cm, to the nearest tenth? (Use π ≈ 3.14.) (cm²)



   Answer: _____ cm²

3. A basketball has a radius of 5 cm. How much leather covers it, to the nearest tenth? (Use π ≈ 3.14.) (cm²)

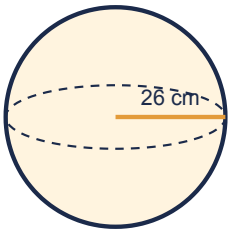


   Answer: _____ cm²

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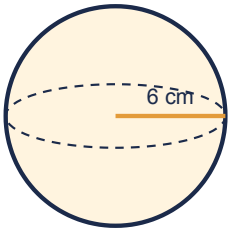
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4. Find the surface area of a sphere with radius 26 cm, to the nearest tenth. (Use π ≈ 3.14.) (cm²)



Answer: _____ cm²

5. Work out the surface area of a sphere with radius 6 cm, to the nearest tenth. (Use π ≈ 3.14.) (cm²)

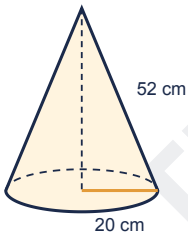


Answer: _____ cm²

6. Work out the curved area of a cone with radius 9 cm and slant height 15 cm, in terms of π.

A. $81\pi \text{ cm}^2$ **B.** $135\pi \text{ cm}^2$ **C.** $270\pi \text{ cm}^2$ **D.** $225\pi \text{ cm}^2$

7. A party hat is a cone with radius 20 cm and slant height 52 cm. How much paper is needed, with no base, to the nearest tenth? (Use π ≈ 3.14.) (cm²)



Answer: _____ cm²

8. A solid half-sphere has radius 15 cm. What is its total surface area, including the flat circle, to the nearest tenth? (Use π ≈ 3.14.) (cm²)

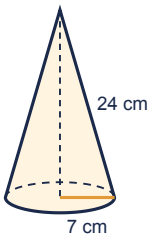
Answer: _____ cm²

9. A dome is a half-sphere of radius 32 m. What area needs painting, not including the floor, to the nearest tenth? (Use π ≈ 3.14.) (m²)

Answer: _____ m²

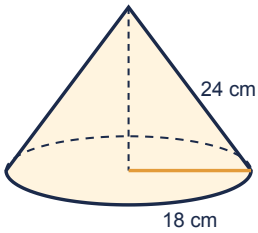
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10. A traffic cone has radius 7 cm and height 24 cm, with no base. How much plastic covers its side, to the nearest tenth? (Use π ≈ 3.14.) (cm²)



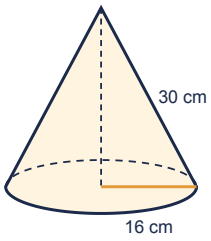
Answer: _____ cm²

11. A cone has radius 18 cm and height 24 cm. Find its total surface area, to the nearest tenth. (Use π ≈ 3.14.) (cm²)



Answer: _____ cm²

12. A cone has radius 16 cm and height 30 cm. Find its total surface area, to the nearest tenth. (Use π ≈ 3.14.) (cm²)



Answer: _____ cm²

13. A dome is a half-sphere of radius 10 m. What area needs painting, not including the floor, to the nearest tenth? (Use π ≈ 3.14.) (m²)

Answer: _____ m²

14. A solid half-sphere has radius 31 cm. What is its total surface area, including the flat circle, to the nearest tenth? (Use π ≈ 3.14.) (cm²)

Answer: _____ cm²

15. A sphere has a surface area of 3600π cm². What is its radius, in cm?

Answer: _____

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16. A propane tank is an 8 dm cylinder with a half-sphere of radius 7 dm on each end. What is its total surface area, to the nearest tenth? (Use $\pi \approx 3.14$.) (dm^2)

    Answer: _____

17. A cone has a curved area of 240π cm^2 and a radius of 12 cm. What is its slant height, in cm?

    Answer: _____ cm^2

18. A dome of radius 26 m (half-sphere) is painted at 2 dollars per m^2. What is the cost, to the nearest dollar? (Use $\pi \approx 3.14$.)

    Answer: _____

19. A sphere's radius is multiplied by 2. By how many times does its surface area grow?

    Answer: _____

20. A propane tank is a 9 dm cylinder with a half-sphere of radius 24 dm on each end. What is its total surface area, to the nearest tenth? (Use $\pi \approx 3.14$.) (dm^2)

    Answer: _____

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Answer key · Version X6157

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1. **A (544π cm^2)**
2. **7850**
3. **314**
4. **8490.6**
5. **452.2**
6. **B (135π cm^2)**
7. **3265.6**
8. **2119.5**
9. **6430.7**
10. **549.5**
11. **2713**
12. **2512**
13. **628**
14. **9052.6**
15. **30**
16. **967.1**
17. **20**
18. **8491**
19. **4**
20. **8591**

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