WORKSHEET OF 2D & 3D MENSURATION

2D MENSURATIONS PRACTICE QUESTIONS:

1. Question: What is the perimeter of a rectangle with length 8 cm and width 5 cm?

   Answer: Perimeter = 2(length + width) = 2(8 cm + 5 cm) = 2(13 cm) = 26 cm

2. Question: Calculate the area of a square with side length 10 meters.

   Answer: Area = side length × side length = 10 meters × 10 meters = 100 square meters

3. Question: Find the circumference of a circle with radius 6 cm. (Take π = 3.14)

   Answer: Circumference = 2πr = 2 × 3.14 × 6 cm = 37.68 cm

4. Question: Determine the area of a triangle with base 12 inches and height 8 inches.

   Answer: Area = (base × height) / 2 = (12 inches × 8 inches) / 2 = 48 square inches

5. Question: What is the perimeter of a regular hexagon with a side length of 4 cm?

   Answer: Perimeter = 6 × side length = 6 × 4 cm = 24 cm

6. Question: Calculate the area of a parallelogram with base 15 cm and height 9 cm.

   Answer: Area = base × height = 15 cm × 9 cm = 135 square cm

7. Question: Find the perimeter of an equilateral triangle with side length 7 meters.

   Answer: Perimeter = 3 × side length = 3 × 7 meters = 21 meters

8. Question: Determine the area of a trapezoid with bases of length 5 cm and 9 cm, and height 6 cm.

   Answer: Area = ((base1 + base2) × height) / 2 = ((5 cm + 9 cm) × 6 cm) / 2 = 42 square cm

9. Question: What is the circumference of a semicircle with radius 10 cm? (Take π = 3.14)

Answer: Circumference = πr + 2r = 3.14 × 10 cm + 2 × 10 cm = 31.4 cm

10. Question: Calculate the area of a regular pentagon with side length 8 inches.

Answer: Area = (1/4) × √(5(5 + 2√5)) × side length^2 = (1/4) × √(5(5 + 2√5)) × (8 inches)^2 ≈ 110.11 square inches

11. Question: Find the perimeter of a rhombus with side length 6 cm.

Answer: Perimeter = 4 × side length = 4 × 6 cm = 24 cm

12. Question: Determine the area of a kite with diagonals measuring 12 cm and 15 cm.

Answer: Area = (diagonal1 × diagonal2) / 2 = (12 cm × 15 cm) / 2 = 90 square cm

13. Question: What is the circumference of a quarter circle with radius 5 inches? (Take π = 3.14)

Answer: Circumference = πr / 2 + 2r = (3.14 × 5 inches) / 2 + 2 × 5 inches = 15.7 inches

14. Question: Calculate the area of a sector of a circle with radius 9 cm and central angle of 60 degrees. (Take π = 3.14)

Answer: Area = (θ/360) × πr^2 = (60/360) × 3.14 × (9 cm)^2 ≈ 47.71 square cm

15. Question: Find the perimeter of a regular octagon with a side length of 12 cm.

Answer: Perimeter = 8 × side length = 8 × 12 cm = 96 cm

16. Question: Determine the area of a sector of a circle with radius 7 cm and central angle of 45 degrees. (Take π = 3.14)

Answer: Area = (θ/360) × πr^2 = (45/360) × 3.14 × (7 cm)^2 ≈ 27.44 square cm

17. Question: What is the perimeter of a scalene triangle with side lengths 5 cm, 7 cm, and 9 cm?

Answer: Perimeter = sum of all side lengths = 5 cm + 7 cm + 9 cm = 21 cm

18. Question: Calculate the area of a rectangle with length 18 meters and width 6 meters.

Answer: Area = length × width = 18 meters × 6 meters = 108 square meters

19. Question: Find the circumference of a regular decagon with a side length of 8 cm.

Answer: Perimeter = 10 × side length = 10 × 8 cm = 80 cm

20. Question: Determine the area of a circle with diameter 10 inches. (Take π = 3.14)

Answer: Area = πr^2 = 3.14 × (5 inches)^2 = 78.5 square inches

3D MENSURATIONS PRACTICE QUESTIONS:

Sure, here are 20 questions on 3D mensuration along with their answers:

1. Question: What is the volume of a cube with side length 6 cm?

Answer: Volume = side length × side length × side length = 6 cm × 6 cm × 6 cm = 216 cubic cm

2. Question: Calculate the total surface area of a rectangular prism with length 8 cm, width 5 cm, and height 4 cm.

Answer: Total Surface Area = 2(length × width + width × height + height × length) = 2(8 cm × 5 cm + 5 cm × 4 cm + 4 cm × 8 cm) = 2(40 cm^2 + 20 cm^2 + 32 cm^2) = 2(92 cm^2) = 184 square cm

3. Question: Determine the volume of a sphere with radius 10 meters. (Take π = 3.14)

Answer: Volume = (4/3)πr^3 = (4/3) × 3.14 × (10 meters)^3 ≈ 4186.67 cubic meters

4. Question: Find the surface area of a cylinder with radius 5 cm and height 12 cm. (Take π = 3.14)

Answer: Surface Area = 2πr(r + h) = 2 × 3.14 × 5 cm(5 cm + 12 cm) = 2 × 3.14 × 5 cm × 17 cm ≈ 534 square cm

5. Question: What is the volume of a rectangular pyramid with base dimensions 6 cm by 8 cm and height 10 cm?

Answer: Volume = (1/3) × base area × height = (1/3) × (6 cm × 8 cm) × 10 cm = (1/3) × 48 square cm × 10 cm = 160 cubic cm

6. Question: Calculate the total surface area of a cone with radius 3 meters and slant height 5 meters. (Take π = 3.14)

Answer: Total Surface Area = πr(r + l) = 3.14 × 3 meters(3 meters + 5 meters) = 3.14 × 3 meters × 8 meters ≈ 75.36 square meters

7. Question: Determine the volume of a triangular prism with base area 15 square inches and height 10 inches.

Answer: Volume = base area × height = 15 square inches × 10 inches = 150 cubic inches

8. Question: Find the surface area of a square pyramid with base side length 10 cm and slant height 12 cm.

Answer: Surface Area = base area + (1/2)perimeter of base × slant height = (10 cm)^2 + (1/2) × 4 × 10 cm × 12 cm = 100 square cm + 240 square cm = 340 square cm

9. Question: What is the volume of a cone with radius 6 inches and height 9 inches? (Take π = 3.14)

Answer: Volume = (1/3)πr^2h = (1/3) × 3.14 × (6 inches)^2 × 9 inches ≈ 339.12 cubic inches

10. Question: Calculate the total surface area of a square pyramid with base side length 8 cm and slant height 10 cm.

Answer: Total Surface Area = base area + (1/2)perimeter of base × slant height = (8 cm)^2 + (1/2) × 4 × 8 cm × 10 cm = 64 square cm + 160 square cm = 224 square cm

11. Question: Determine the volume of a cube with diagonal length 10 meters.

Answer: Volume = (1/6) × diagonal^3 = (1/6) × (10 meters)^3 = 166.67 cubic meters

12. Question: Find the surface area of a cone with radius 4 inches and slant height 8 inches. (Take π = 3.14)

Answer: Surface Area = πr(r + l) = 3.14 × 4 inches(4 inches + 8 inches) = 3.14 × 4 inches × 12 inches ≈ 150.72 square inches

13. Question: What is the volume of a cylinder with radius 7 cm and height 15 cm? (Take π = 3.14)

Answer: Volume = πr^2h = 3.14 × (7 cm)^2 × 15 cm ≈ 2309.5 cubic cm

14. Question: Calculate the total surface area of a cylinder with radius 6 cm and height 10 cm. (Take π = 3.14)

Answer: Total Surface Area = 2πr(r + h) = 2 × 3.14 × 6 cm(6 cm + 10 cm) = 2 × 3.14 × 6 cm × 16 cm ≈ 602.88 square cm

15. Question: Determine the volume of a cone with radius 5 cm and height 12 cm. (Take π = 3.14)

Answer: Volume = (1/3)πr^2h = (1/3) × 3.14 × (5 cm)^2 × 12 cm ≈ 314.0 cubic cm

16. Question: Find the surface area of a rectangular prism with length 7 cm, width 5 cm, and height 9 cm.

Answer: Surface Area = 2(length × width + width × height + height × length) = 2(7 cm × 5 cm + 5 cm × 9 cm + 9 cm × 7 cm) = 2(35 cm^2 + 45 cm^2 + 63 cm^2) = 2(143 cm^2) = 286 square cm

17. Question: What is the volume of a sphere with diameter 12 meters? (Take π = 3.14)

Answer: Volume = (4/3)πr^3 = (4/3) × 3.14 × (6 meters)^3 ≈ 904.32 cubic meters

18. Question: Calculate the total surface area of a cube with side length 5 inches.

Answer: Total Surface Area = 6 × (side length)^2 = 6 × (5 inches)^2 = 6 × 25 square inches = 150 square inches

19. Question: Determine the volume of a rectangular prism with length 10 cm, width 6 cm, and height 4 cm.

Answer: Volume = length × width × height = 10 cm × 6 cm × 4 cm = 240 cubic cm

20. Question: Find the surface area of a sphere with radius 9 inches. (Take π = 3.14)

Answer: Surface Area = 4πr^2 = 4 × 3.14 × (9 inches)^2 = 4 × 3.14 × 81 square inches ≈ 1017

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