Surface Area and Volume of Spheres (A)

Calculate the surface area and volume for each sphere.

Surface Area = \(4\pi r^2\)  Volume = \(\frac{4}{3}\pi r^3\)

1. \(r = 60.0\) km

2. \(d = 184.68\) ft

3. \(r = 30\) yd

4. \(r = 57.36\) nm
Surface Area and Volume of Spheres (A) Answers

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. \( r = 60.0 \text{ km} \)
   Surface Area: 45,238.9 km\(^2\)
   Volume: 904,778.7 km\(^3\)

2. \( d = 184.68 \text{ ft} \)
   Surface Area: 107,149.37 ft\(^2\)
   Volume: 3,298,057.48 ft\(^3\)

3. \( r = 30 \text{ yd} \)
   Surface Area: 11,310 yd\(^2\)
   Volume: 113,097 yd\(^3\)

4. \( r = 57.36 \text{ nm} \)
   Surface Area: 41,345.49 nm\(^2\)
   Volume: 790,525.78 nm\(^3\)
Surface Area and Volume of Spheres (B)

Calculate the surface area and volume for each sphere.

Surface Area $= 4\pi r^2$  Volume $= \frac{4}{3} \pi r^3$

1. \( r = 60 \text{ AU} \)
2. \( r = 60.32 \text{ nm} \)
3. \( d = 128 \text{ nm} \)
4. \( d = 127.40 \text{ AU} \)
Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  
Volume = $\frac{4}{3}\pi r^3$

1. 
   \[ r = 60 \text{ AU} \]
   Surface Area: 45,239 AU$^2$  
   Volume: 904,779 AU$^3$

2. 
   \[ r = 60.32 \text{ nm} \]
   Surface Area: 45,722.77 nm$^2$  
   Volume: 919,332.49 nm$^3$

3. 
   \[ d = 128 \text{ nm} \]
   Surface Area: 51,472 nm$^2$  
   Volume: 1,098,066 nm$^3$

4. 
   \[ d = 127.40 \text{ AU} \]
   Surface Area: 50,990.44 AU$^2$  
   Volume: 1,082,696.93 AU$^3$
Surface Area and Volume of Spheres (C)

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. \[ r = 97.72 \text{ m} \]
2. \[ d = 80 \text{ mi} \]
3. \[ d = 120.0 \text{ yd} \]
4. \[ d = 217.60 \text{ cm} \]
Calculate the surface area and volume for each sphere.

\[
\text{Surface Area} = 4\pi r^2 \quad \text{Volume} = \frac{4}{3}\pi r^3
\]

1. \( r = 97.72 \text{ m} \)
   - Surface Area: 119,998.77 m²
   - Volume: 3,908,759.81 m³

2. \( d = 80 \text{ mi} \)
   - Surface Area: 20,106 mi²
   - Volume: 268,083 mi³

3. \( d = 120.0 \text{ yd} \)
   - Surface Area: 45,238.9 yd²
   - Volume: 904,778.7 yd³

4. \( d = 217.60 \text{ cm} \)
   - Surface Area: 148,753.66 cm²
   - Volume: 5,394,799.34 cm³
Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $d = 184.8$ AU

2. $r = 42$ in

3. $d = 88$ in

4. $d = 105.6$ nm
Surface Area and Volume of Spheres (D) Answers

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1.

Surface Area: 107,288.7 AU$^2$
Volume: 3,304,490.6 AU$^3$

2.

Surface Area: 22,167 in$^2$
Volume: 310,339 in$^3$

3.

Surface Area: 24,328 in$^2$
Volume: 356,818 in$^3$

4.

Surface Area: 35,033.0 nm$^2$
Volume: 616,581.3 nm$^3$
Surface Area and Volume of Spheres (E)

Calculate the surface area and volume for each sphere.

\[ \text{Surface Area} = 4\pi r^2 \quad \text{Volume} = \frac{4}{3} \pi r^3 \]

1. \[ d = 68 \text{ mm} \]

2. \[ r = 61.2 \text{ ft} \]

3. \[ d = 97.50 \text{ ft} \]

4. \[ d = 70.80 \text{ in} \]
Surface Area and Volume of Spheres (E) Answers

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $d = 68\text{ mm}$
   
   Surface Area: $14,527\text{ mm}^2$
   Volume: $164,636\text{ mm}^3$

2. $r = 61.2\text{ ft}$
   
   Surface Area: $47,066.6\text{ ft}^2$
   Volume: $960,158.4\text{ ft}^3$

3. $d = 97.50\text{ ft}$
   
   Surface Area: $29,864.77\text{ ft}^2$
   Volume: $485,302.43\text{ ft}^3$

4. $d = 70.80\text{ in}$
   
   Surface Area: $15,747.67\text{ in}^2$
   Volume: $185,822.54\text{ in}^3$
Surface Area and Volume of Spheres (F)

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $r = 100.80$ yd

2. $r = 65.88$ mm

3. $d = 78.0$ mm

4. $d = 116$ km
Surface Area and Volume of Spheres (F) Answers

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $\quad r = 100.80 \text{ yd}$
   
   Surface Area: $127,682.37 \text{ yd}^2$
   Volume: $4,290,127.56 \text{ yd}^3$

2. $\quad r = 65.88 \text{ nm}$
   
   Surface Area: $54,540.24 \text{ nm}^2$
   Volume: $1,197,703.67 \text{ nm}^3$

3. $\quad d = 78.0 \text{ mm}$
   
   Surface Area: $19,113.4 \text{ mm}^2$
   Volume: $248,474.8 \text{ mm}^3$

4. $\quad d = 116 \text{ km}$
   
   Surface Area: $42,273 \text{ km}^2$
   Volume: $817,283 \text{ km}^3$
Calculate the surface area and volume for each sphere.

Surface Area = \(4\pi r^2\)  
Volume = \(\frac{4}{3}\pi r^3\)

1. \(r = 93.0\) km
2. \(d = 237.44\) AU
3. \(r = 81\) yd
4. \(d = 60\) ft
Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $r = 93.0\ km$
   - Surface Area: $108,686.5\ km^2$
   - Volume: $3,369,282.7\ km^3$

2. $d = 237.44\ AU$
   - Surface Area: $177,115.94\ AU^2$
   - Volume: $7,009,068.00\ AU^3$

3. $r = 81\ yd$
   - Surface Area: $82,448\ yd^2$
   - Volume: $2,226,095\ yd^3$

4. $d = 60\ ft$
   - Surface Area: $113,100\ ft^2$
   - Volume: $113,097\ ft^3$
Surface Area and Volume of Spheres (H)

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $d = 178.2$ yd

2. $d = 144.0$ m

3. $r = 58.32$ yd

4. $r = 50$ nm
Calculate the surface area and volume for each sphere.

\[
\text{Surface Area} = 4\pi r^2 \quad \text{Volume} = \frac{4}{3}\pi r^3
\]

1. \(d = 178.2\, \text{yd}\)
   
   Surface Area: 99,762.0\, \text{yd}^2
   
   Volume: 2,962,932.3\, \text{yd}^3

2. \(d = 144.0\, \text{m}\)
   
   Surface Area: 65,144.1\, \text{m}^2
   
   Volume: 1,563,457.6\, \text{m}^3

3. \(r = 58.32\, \text{yd}\)
   
   Surface Area: 42,741.02\, \text{yd}^2
   
   Volume: 830,885.45\, \text{yd}^3

4. \(r = 50\, \text{nm}\)
   
   Surface Area: 31,416\, \text{nm}^2
   
   Volume: 523,599\, \text{nm}^3
Surface Area and Volume of Spheres (I)

Calculate the surface area and volume for each sphere.

Surface Area = \( 4\pi r^2 \)  
Volume = \( \frac{4}{3}\pi r^3 \)

1. \( d = 237.6 \text{ m} \)
2. \( r = 54.6 \text{ km} \)
3. \( r = 60.0 \text{ AU} \)
4. \( d = 102 \text{ nm} \)
Surface Area and Volume of Spheres (I) Answers

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $d = 237.6$ m
   - Surface Area: 177,354.7 m$^2$
   - Volume: 7,023,246.8 m$^3$

2. $r = 54.6$ km
   - Surface Area: 37,462.4 km$^2$
   - Volume: 681,815.0 km$^3$

3. $r = 60.0$ AU
   - Surface Area: 45,238.9 AU$^2$
   - Volume: 904,778.7 AU$^3$

4. $d = 102$ nm
   - Surface Area: 32,685 nm$^2$
   - Volume: 555,647 nm$^3$
Surface Area and Volume of Spheres (J)

Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  Volume = $\frac{4}{3}\pi r^3$

1. $r = 97.2$ mi

2. $d = 84$ mm

3. $r = 59.16$ cm

4. $r = 83.43$ mi
Calculate the surface area and volume for each sphere.

Surface Area = $4\pi r^2$  
Volume = $\frac{4}{3}\pi r^3$ 

1. 

Surface Area: $118,725.1 \text{mi}^2$
Volume: $3,846,691.9 \text{mi}^3$

2. 

Surface Area: $22,167 \text{mm}^2$
Volume: $310,339 \text{mm}^3$

3. 

Surface Area: $43,981.11 \text{cm}^2$
Volume: $867,307.51 \text{cm}^3$

4. 

Surface Area: $87,469.04 \text{mi}^2$
Volume: $2,432,513.95 \text{mi}^3$