Surface Area and Volume of Cones (A)
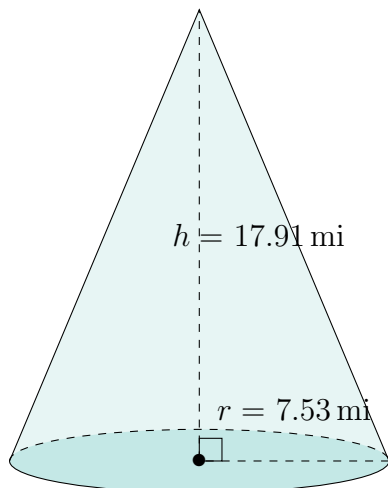
Calculate the surface area and volume for each cone.

Surface Area $= \pi r(r + \sqrt{h^2 + r^2})$ Volume $= \pi r^2 \dfrac{h}{3}$

1.

$h = 17.91$ mi

$r = 7.53$ mi

2.

$h = 3.17$ mi

$r = 1.42$ mi

3.

$h = 9.96$ m

$r = 4.64$ m

4.

$h = 16.40$ mm

$r = 9.92$ mm

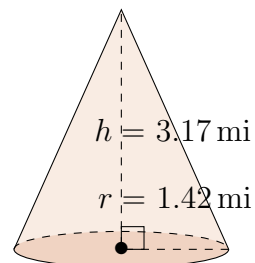# Surface Area and Volume of Cones (A) Answers

Calculate the surface area and volume for each cone.

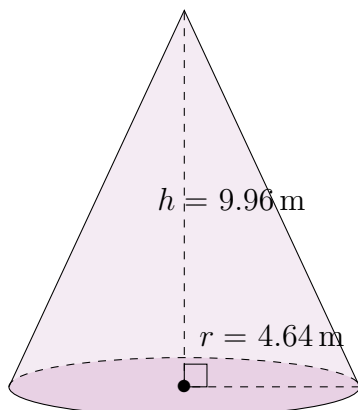$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
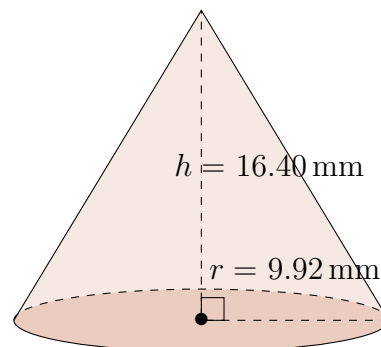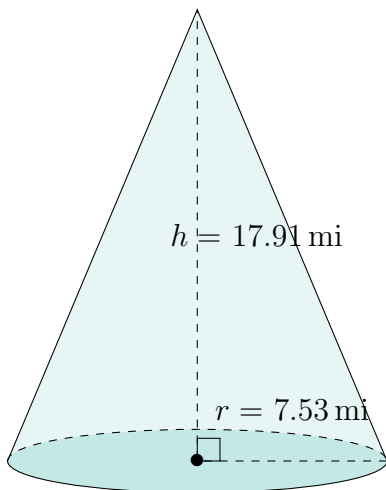
1.

$h = 17.91\,\text{mi}$

$r = 7.53\,\text{mi}$

Surface Area: $637.74\,\text{mi}^2$
Volume: $1063.44\,\text{mi}^3$

2.

$h = 3.17\,\text{mi}$

$r = 1.42\,\text{mi}$
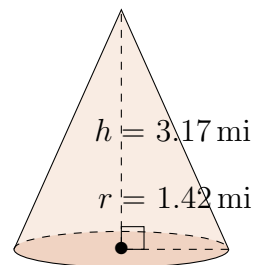
Surface Area: $21.83\,\text{mi}^2$
Volume: $6.69\,\text{mi}^3$

3.

$h = 9.96\,\text{m}$

$r = 4.64\,\text{m}$

Surface Area: $227.81\,\text{m}^2$
Volume: $224.56\,\text{m}^3$

4.

$h = 16.40\,\text{mm}$

$r = 9.92\,\text{mm}$
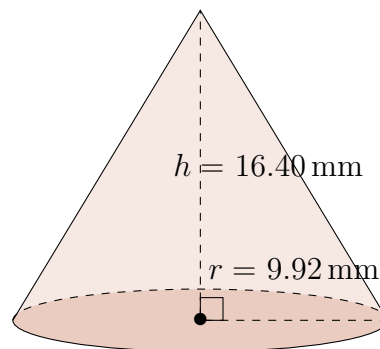
Surface Area: $906.48\,\text{mm}^2$
Volume: $1690.04\,\text{mm}^3$

Surface Area and Volume of Cones (B)

Calculate the surface area and volume for each cone.

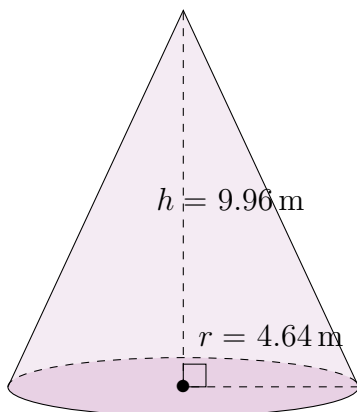$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
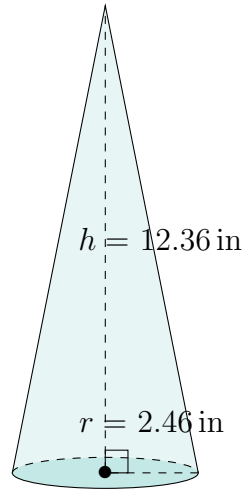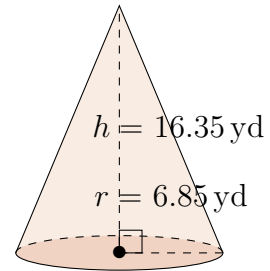
1.

$h = 12.36 \, \text{in}$

$r = 2.46 \, \text{in}$

2.

$h = 16.35 \, \text{yd}$

$r = 6.85 \, \text{yd}$

3.

$h = 19.98 \, \text{cm}$

$r = 11.76 \, \text{cm}$

4.

$h = 5.72 \, \text{in}$

$r = 3.30 \, \text{in}$

Surface Area and Volume of Cones (B) Answers

Calculate the surface area and volume for each cone.

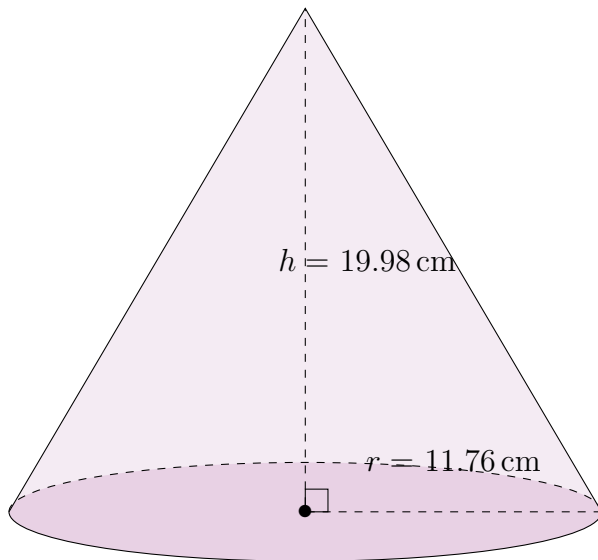$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
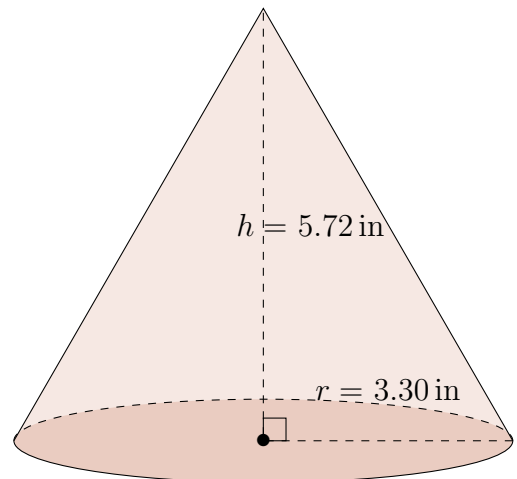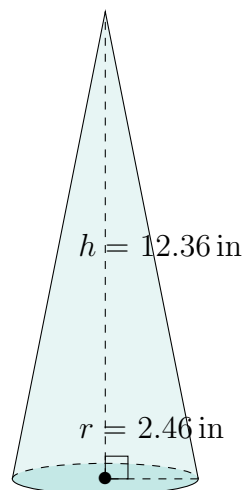
1.

$h = 12.36\,\text{in}$

$r = 2.46\,\text{in}$

Surface Area: $116.41\,\text{in}^2$
Volume: $78.33\,\text{in}^3$

2.

$h = 16.35\,\text{yd}$

$r = 6.85\,\text{yd}$
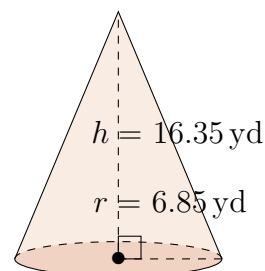
Surface Area: $528.89\,\text{yd}^2$
Volume: $803.39\,\text{yd}^3$

3.

$h = 19.98\,\text{cm}$

$r = 11.76\,\text{cm}$

Surface Area: $1291.01\,\text{cm}^2$
Volume: $2893.60\,\text{cm}^3$

4.

$h = 5.72\,\text{in}$

$r = 3.30\,\text{in}$
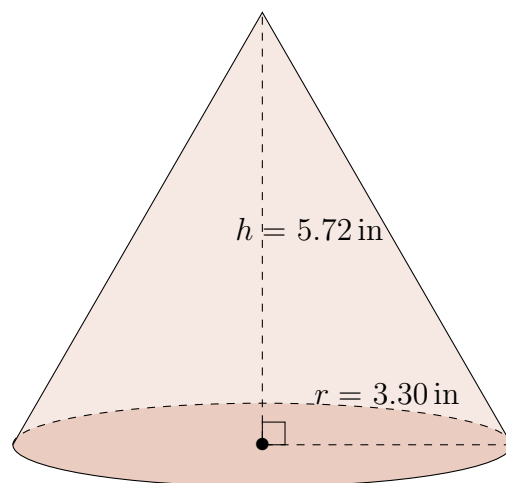
Surface Area: $102.67\,\text{in}^2$
Volume: $65.23\,\text{in}^3$

Surface Area and Volume of Cones (C)

Calculate the surface area and volume for each cone.

$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
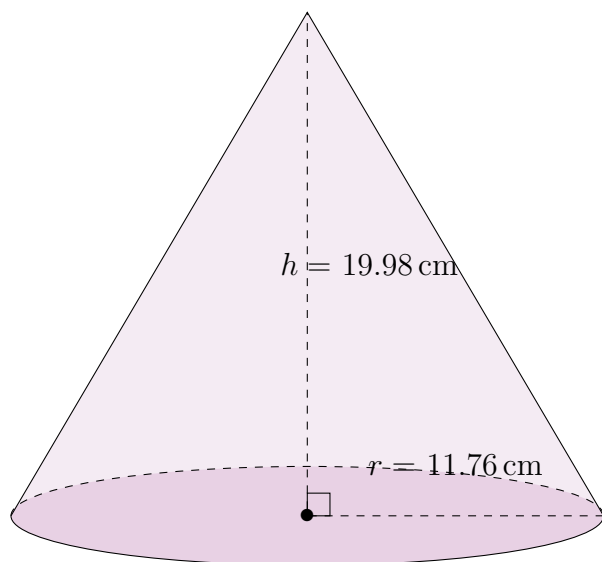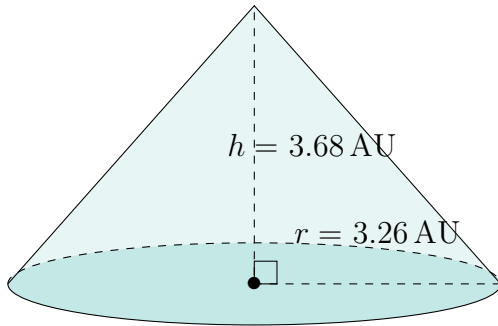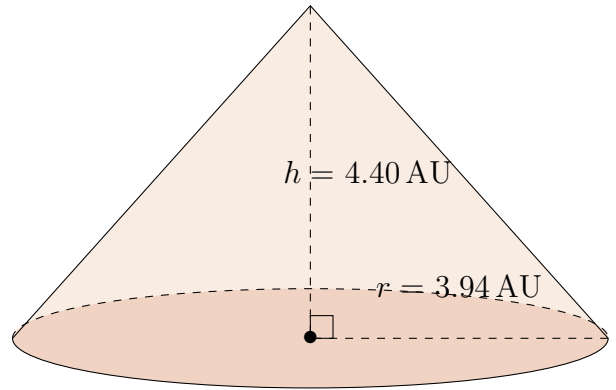
1.

$h = 3.68\,\text{AU}$

$r = 3.26\,\text{AU}$

2.

$h = 4.40\,\text{AU}$

$r = 3.94\,\text{AU}$

3.

$h = 18.45\,\text{km}$

$r = 4.59\,\text{km}$

4.

$h = 13.76\,\text{AU}$

$r = 5.28\,\text{AU}$

Surface Area and Volume of Cones (C) Answers

Calculate the surface area and volume for each cone.

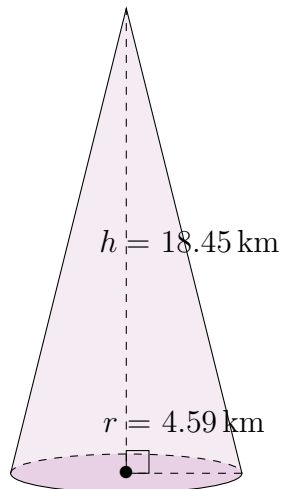$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
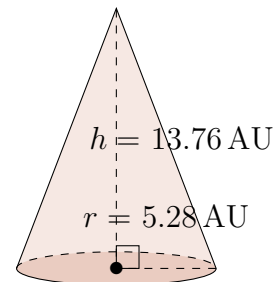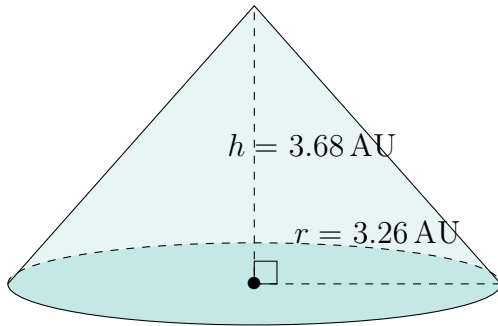
1.

$h = 3.68\,\text{AU}$

$r = 3.26\,\text{AU}$

Surface Area: $83.74\,\text{AU}^2$
Volume: $40.96\,\text{AU}^3$

2.

$h = 4.40\,\text{AU}$

$r = 3.94\,\text{AU}$
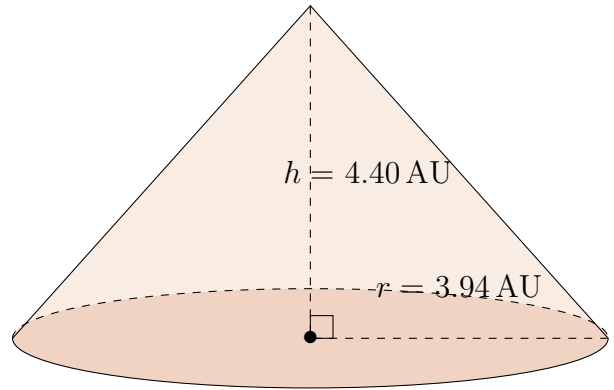
Surface Area: $121.88\,\text{AU}^2$
Volume: $71.53\,\text{AU}^3$

3.

$h = 18.45\,\text{km}$

$r = 4.59\,\text{km}$

Surface Area: $340.34\,\text{km}^2$
Volume: $407.05\,\text{km}^3$

4.

$h = 13.76\,\text{AU}$

$r = 5.28\,\text{AU}$
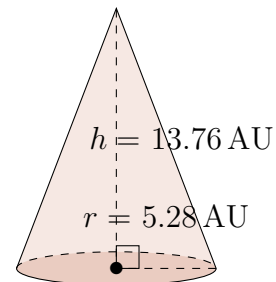
Surface Area: $332.05\,\text{AU}^2$
Volume: $401.71\,\text{AU}^3$

Surface Area and Volume of Cones (D)

Calculate the surface area and volume for each cone.

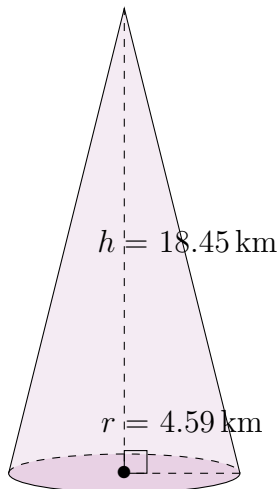$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
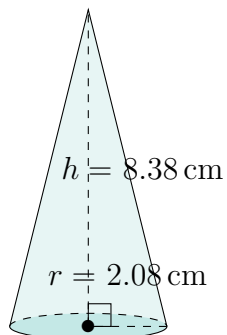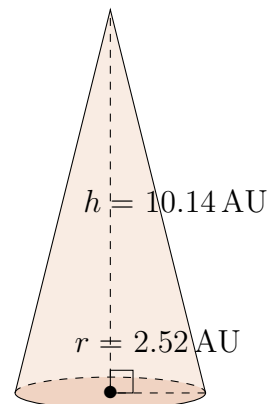
1.

$h = 8.38\,\text{cm}$

$r = 2.08\,\text{cm}$

2.

$h = 10.14\,\text{AU}$

$r = 2.52\,\text{AU}$

3.

$h = 23.52\,\text{yd}$

$r = 14.88\,\text{yd}$

4.

$h = 30.25\,\text{AU}$

$r = 16.00\,\text{AU}$

Surface Area and Volume of Cones (D) Answers

Calculate the surface area and volume for each cone.

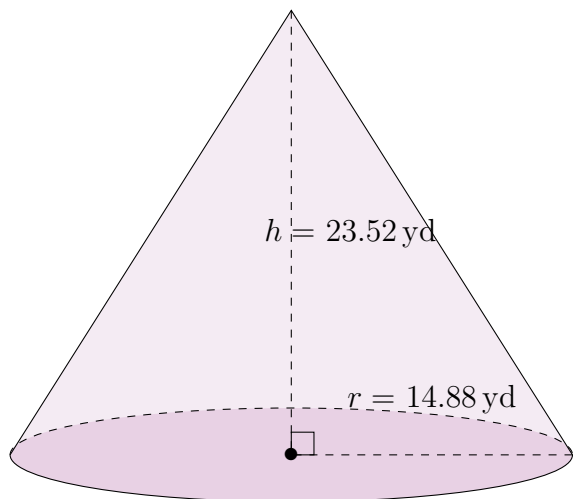$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
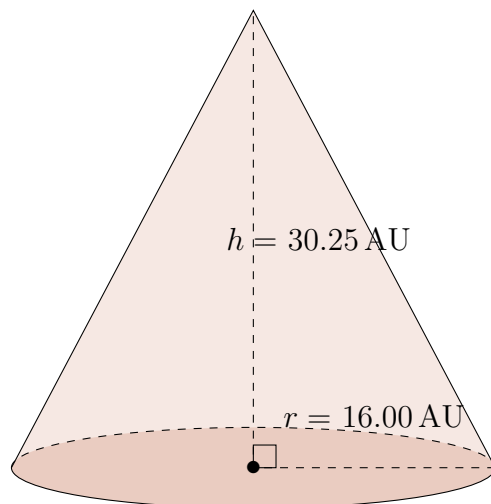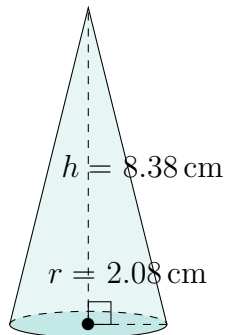
1.

$h = 8.38\,\text{cm}$

$r = 2.08\,\text{cm}$

Surface Area: $70.01\,\text{cm}^2$
Volume: $37.97\,\text{cm}^3$

2.

$h = 10.14\,\text{AU}$

$r = 2.52\,\text{AU}$
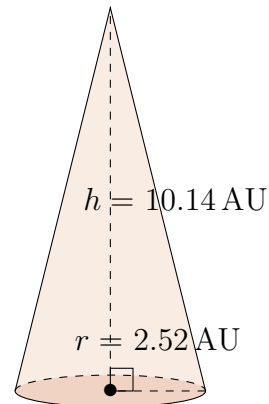
Surface Area: $102.67\,\text{AU}^2$
Volume: $67.43\,\text{AU}^3$

3.

$h = 23.52\,\text{yd}$

$r = 14.88\,\text{yd}$

Surface Area: $1996.64\,\text{yd}^2$
Volume: $5453.46\,\text{yd}^3$

4.

$h = 30.25\,\text{AU}$

$r = 16.00\,\text{AU}$
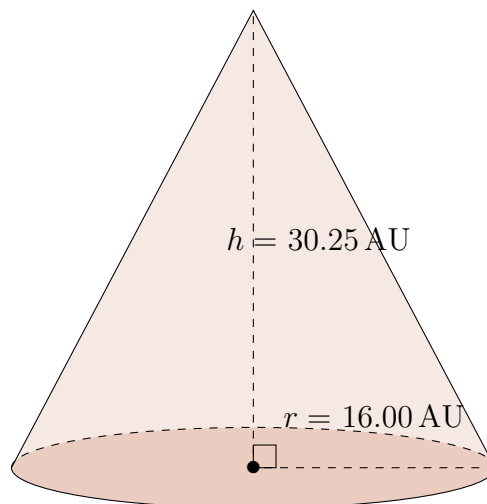
Surface Area: $2524.37\,\text{AU}^2$
Volume: $8109.50\,\text{AU}^3$

Surface Area and Volume of Cones (E)

Calculate the surface area and volume for each cone.

$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
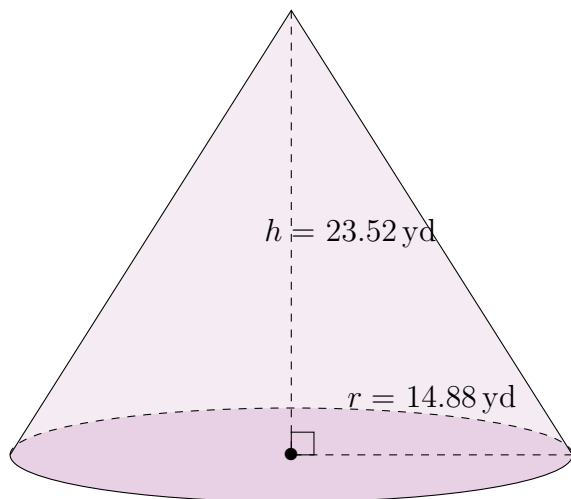
1.

$h = 19.96\,\text{in}$

$r = 14.16\,\text{in}$
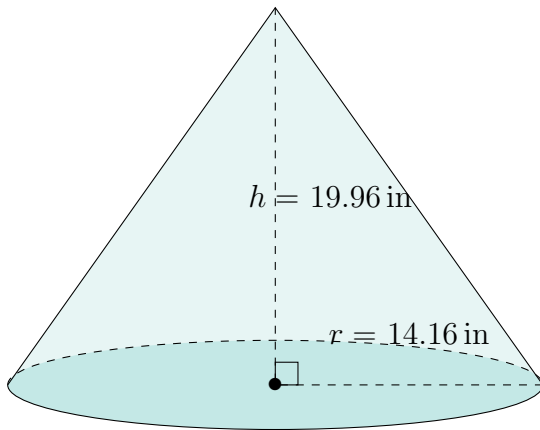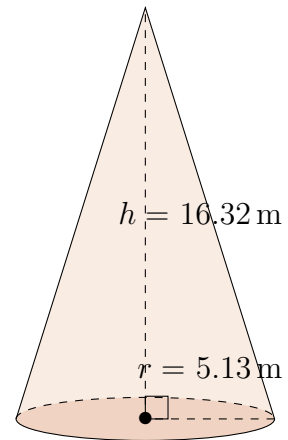
2.

$h = 16.32\,\text{m}$

$r = 5.13\,\text{m}$

3.

$h = 15.60\,\text{km}$

$r = 16.10\,\text{km}$

4.

$h = 4.88\,\text{m}$

$r = 1.64\,\text{m}$

Surface Area and Volume of Cones (E) Answers

Calculate the surface area and volume for each cone.

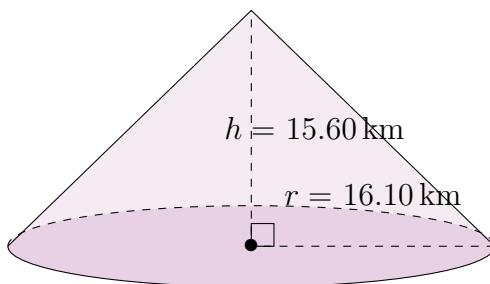$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
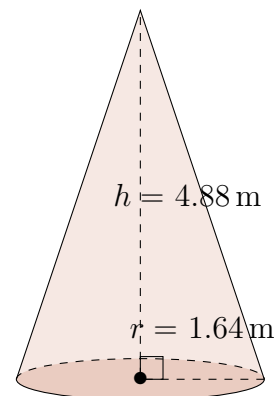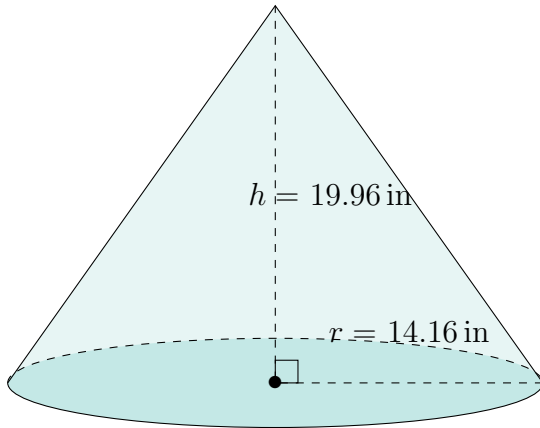
1.

$h = 19.96\,\text{in}$

$r = 14.16\,\text{in}$

Surface Area: $1718.57\,\text{in}^2$
Volume: $4190.98\,\text{in}^3$

2.

$h = 16.32\,\text{m}$

$r = 5.13\,\text{m}$
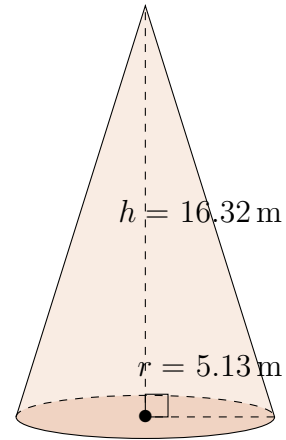
Surface Area: $358.38\,\text{m}^2$
Volume: $449.76\,\text{m}^3$

3.

$h = 15.60\,\text{km}$

$r = 16.10\,\text{km}$

Surface Area: $1948.23\,\text{km}^2$
Volume: $4234.53\,\text{km}^3$

4.

$h = 4.88\,\text{m}$

$r = 1.64\,\text{m}$
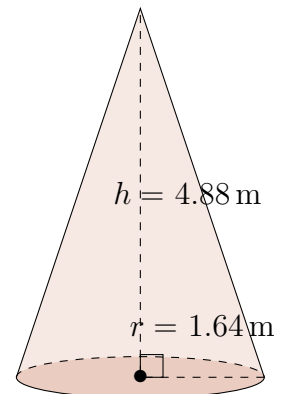
Surface Area: $34.97\,\text{m}^2$
Volume: $13.74\,\text{m}^3$

Surface Area and Volume of Cones (F)

Calculate the surface area and volume for each cone.

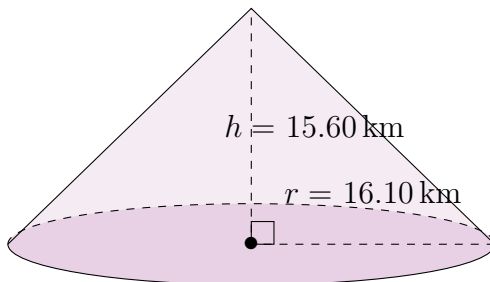$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
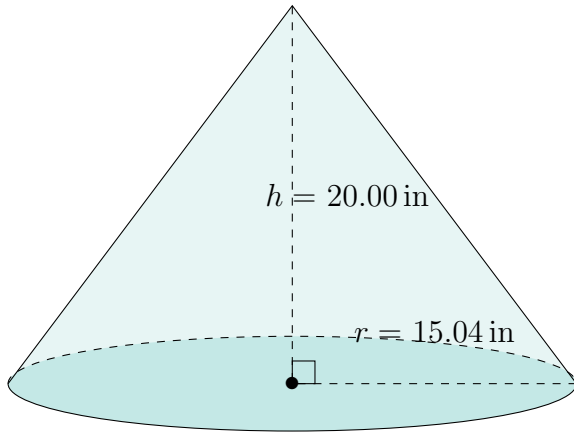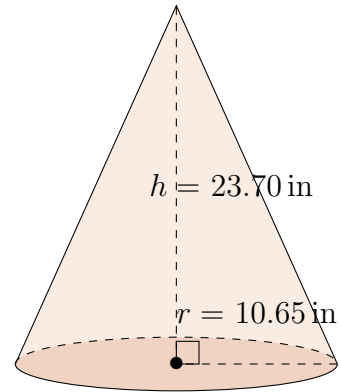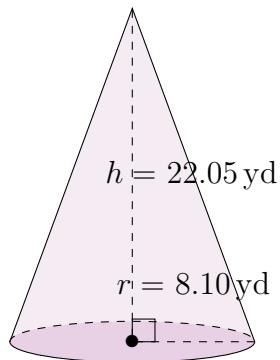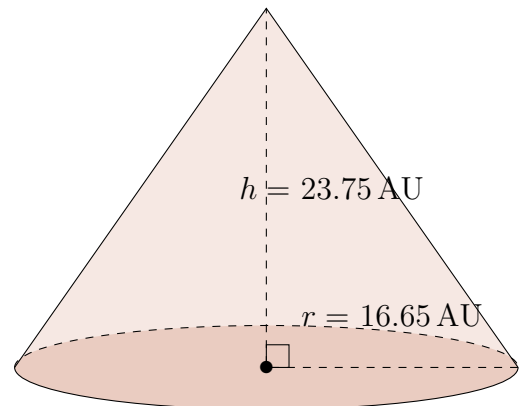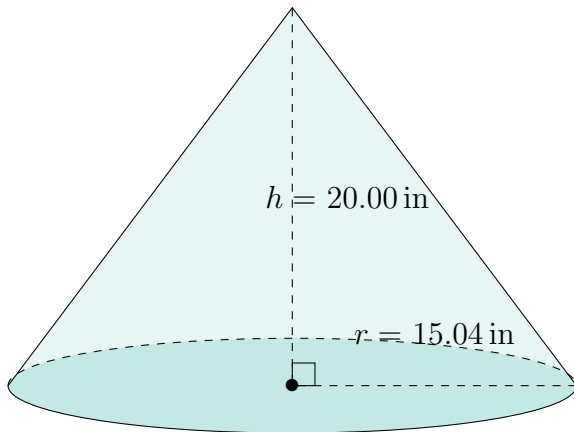
1.

$h = 20.00\,\text{in}$

$r = 15.04\,\text{in}$

2.

$h = 23.70\,\text{in}$

$r = 10.65\,\text{in}$

3.

$h = 22.05\,\text{yd}$

$r = 8.10\,\text{yd}$

4.

$h = 23.75\,\text{AU}$

$r = 16.65\,\text{AU}$

Surface Area and Volume of Cones (F) Answers

Calculate the surface area and volume for each cone.

Surface Area $= \pi r(r + \sqrt{h^2 + r^2})$ Volume $= \pi r^2 \dfrac{h}{3}$

1.

$h = 20.00\,\text{in}$

$r = 15.04\,\text{in}$

Surface Area: $1893.01\,\text{in}^2$
Volume: $4737.56\,\text{in}^3$

2.

$h = 23.70\,\text{in}$

$r = 10.65\,\text{in}$
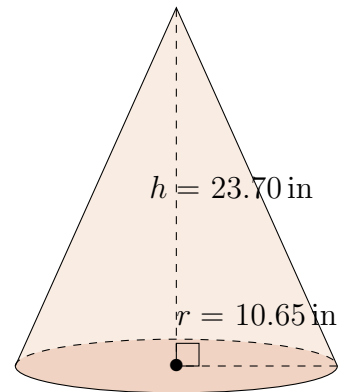
Surface Area: $1225.66\,\text{in}^2$
Volume: $2814.99\,\text{in}^3$

3.

$h = 22.05\,\text{yd}$

$r = 8.10\,\text{yd}$

Surface Area: $803.89\,\text{yd}^2$
Volume: $1514.98\,\text{yd}^3$

4.

$h = 23.75\,\text{AU}$

$r = 16.65\,\text{AU}$
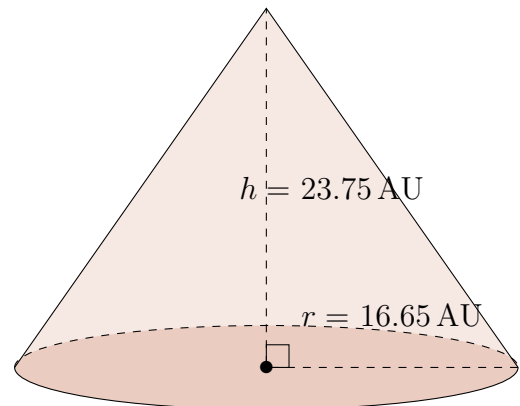
Surface Area: $2388.10\,\text{AU}^2$
Volume: $6894.78\,\text{AU}^3$

Surface Area and Volume of Cones (G)

Calculate the surface area and volume for each cone.

$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
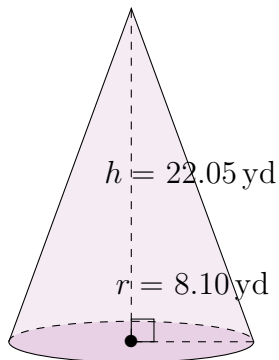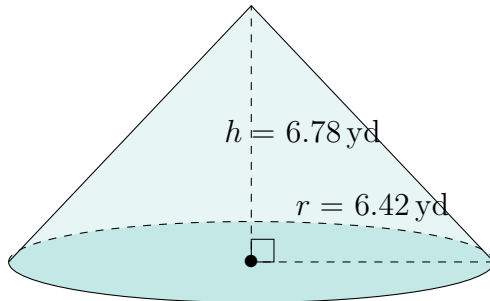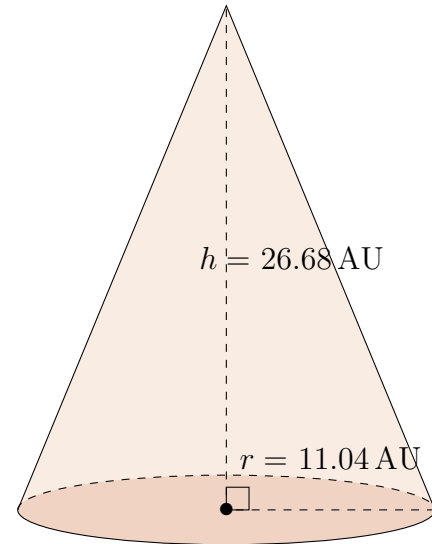
1.

$h = 6.78\,\text{yd}$

$r = 6.42\,\text{yd}$

2.

$h = 26.68\,\text{AU}$

$r = 11.04\,\text{AU}$

3.

$h = 16.80\,\text{nm}$

$r = 10.88\,\text{nm}$

4.

$h = 13.02\,\text{mm}$

$r = 3.30\,\text{mm}$

Surface Area and Volume of Cones (G) Answers

Calculate the surface area and volume for each cone.

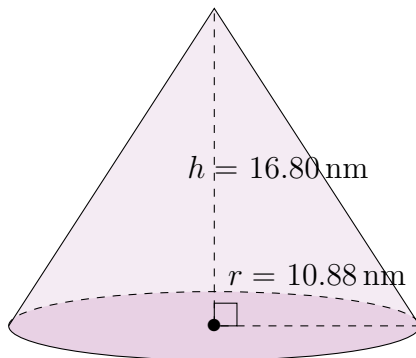$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
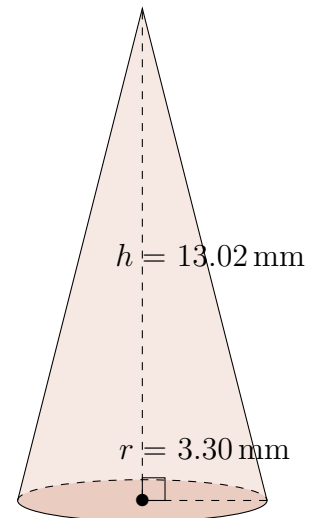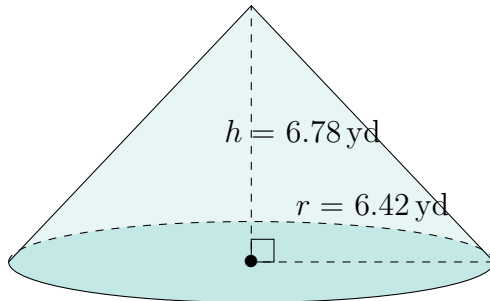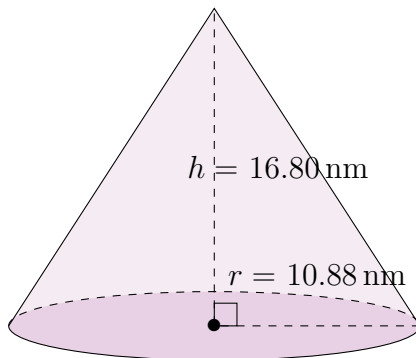
1.

$h = 6.78\,\text{yd}$

$r = 6.42\,\text{yd}$

Surface Area: $317.81\,\text{yd}^2$
Volume: $292.64\,\text{yd}^3$

2.

$h = 26.68\,\text{AU}$

$r = 11.04\,\text{AU}$
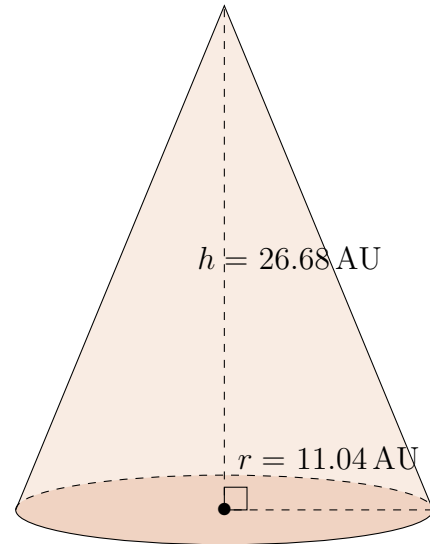
Surface Area: $1384.34\,\text{AU}^2$
Volume: $3405.28\,\text{AU}^3$

3.

$h = 16.80\,\text{nm}$

$r = 10.88\,\text{nm}$

Surface Area: $1056.02\,\text{nm}^2$
Volume: $2082.55\,\text{nm}^3$

4.

$h = 13.02\,\text{mm}$

$r = 3.30\,\text{mm}$
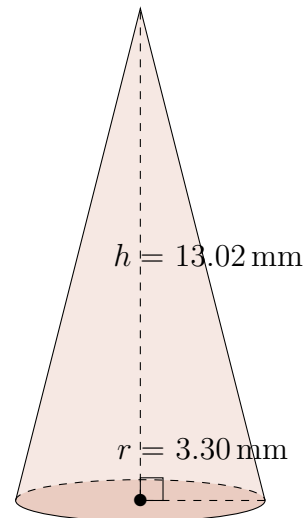
Surface Area: $173.46\,\text{mm}^2$
Volume: $148.48\,\text{mm}^3$

Surface Area and Volume of Cones (H)

Calculate the surface area and volume for each cone.

Surface Area $= \pi r(r + \sqrt{h^2 + r^2})$ Volume $= \pi r^2 \dfrac{h}{3}$

1.

$h = 18.87\,\text{AU}$

$r = 11.10\,\text{AU}$

2.

$h = 12.21\,\text{yd}$

$r = 10.41\,\text{yd}$

3.

$h = 15.03\,\text{AU}$

$r = 9.66\,\text{AU}$

4.

$h = 4.76\,\text{mi}$

$r = 3.57\,\text{mi}$
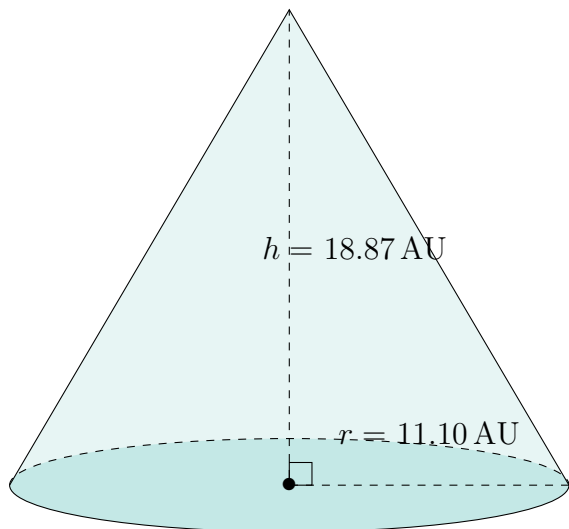
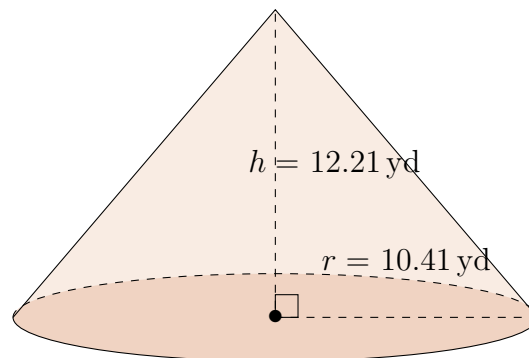# Surface Area and Volume of Cones (H) Answers

Calculate the surface area and volume for each cone.

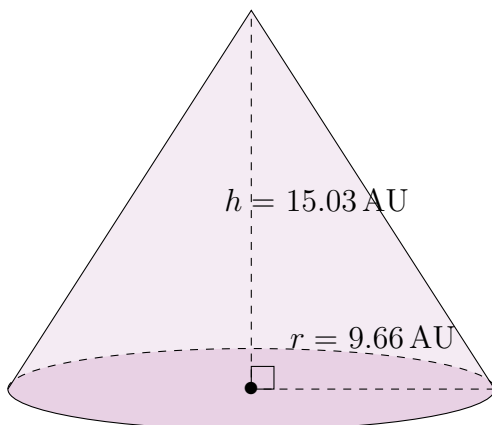$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
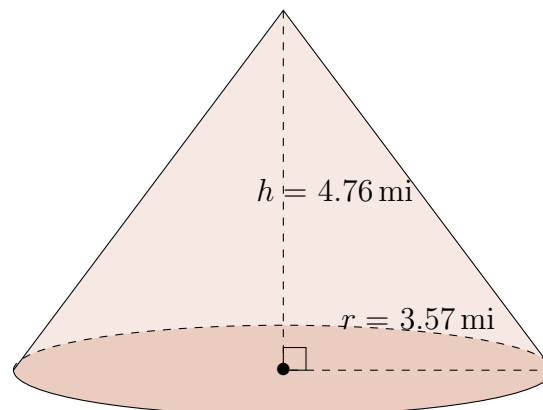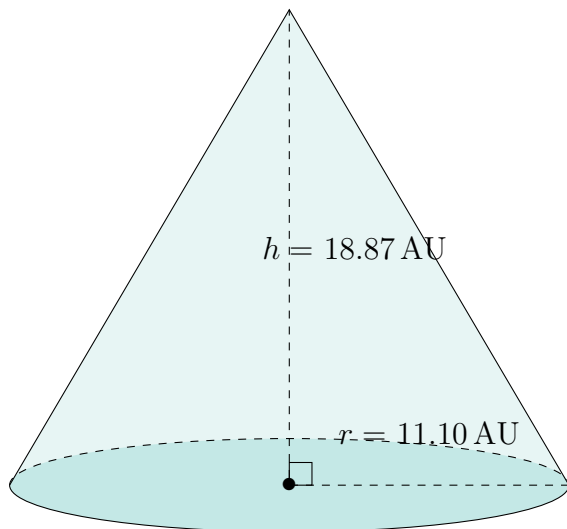
1.

$h = 18.87 \, \text{AU}$

$r = 11.10 \, \text{AU}$

Surface Area: $1150.51 \, \text{AU}^2$
Volume: $2434.71 \, \text{AU}^3$

2.

$h = 12.21 \, \text{yd}$

$r = 10.41 \, \text{yd}$
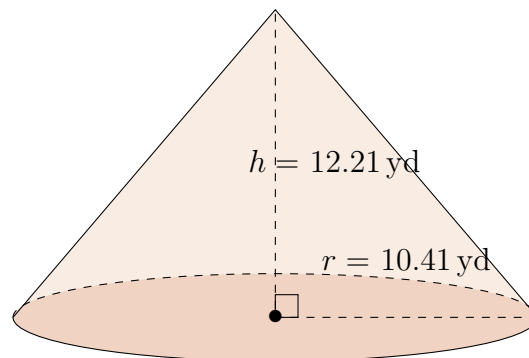
Surface Area: $865.19 \, \text{yd}^2$
Volume: $1385.63 \, \text{yd}^3$

3.

$h = 15.03 \, \text{AU}$

$r = 9.66 \, \text{AU}$

Surface Area: $835.37 \, \text{AU}^2$
Volume: $1468.73 \, \text{AU}^3$

4.

$h = 4.76 \, \text{mi}$

$r = 3.57 \, \text{mi}$
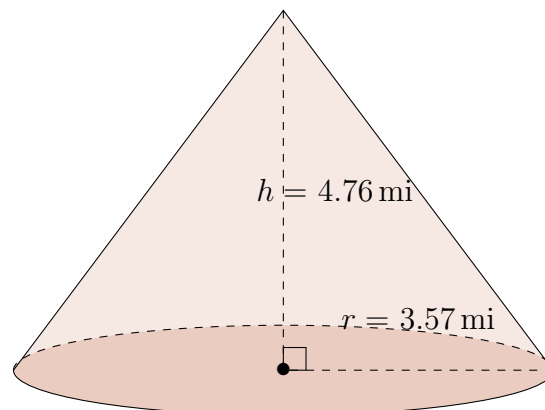
Surface Area: $106.77 \, \text{mi}^2$
Volume: $63.53 \, \text{mi}^3$

Surface Area and Volume of Cones (I)

Calculate the surface area and volume for each cone.

$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
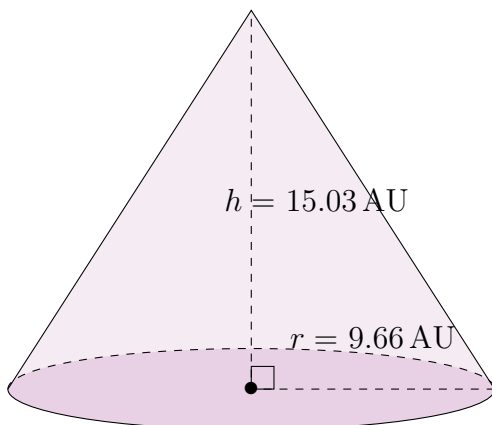
1.

$h = 22.00\,\text{mi}$

$r = 10.44\,\text{mi}$

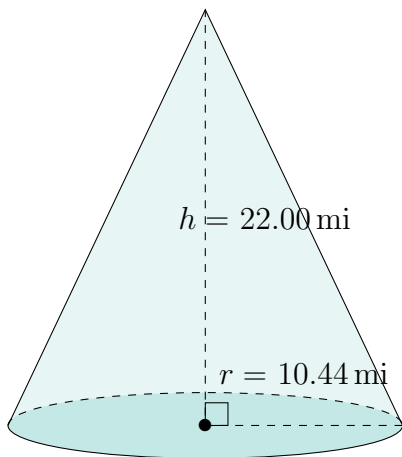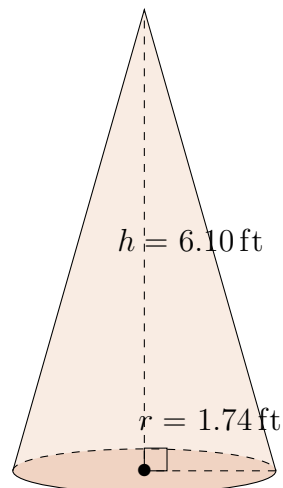2.

$h = 6.10\,\text{ft}$

$r = 1.74\,\text{ft}$

3.

$h = 34.05\,\text{mi}$

$r = 6.35\,\text{mi}$

4.

$h = 18.85\,\text{yd}$

$r = 11.95\,\text{yd}$

Surface Area and Volume of Cones (I) Answers

Calculate the surface area and volume for each cone.

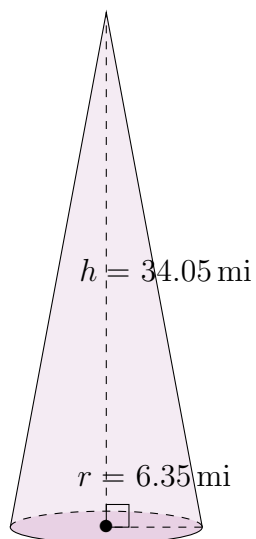$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
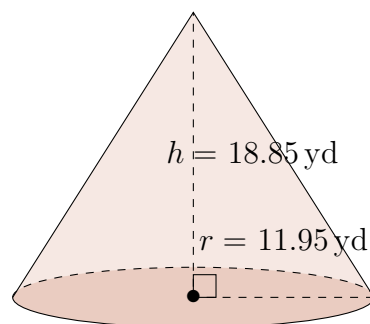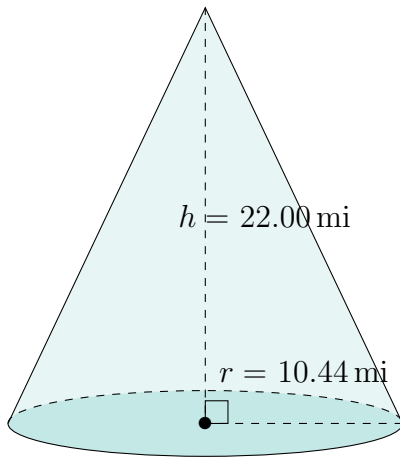
1.

$h = 22.00\,\text{mi}$

$r = 10.44\,\text{mi}$

Surface Area: $1141.10\,\text{mi}^2$
Volume: $2511.03\,\text{mi}^3$

2.

$h = 6.10\,\text{ft}$

$r = 1.74\,\text{ft}$
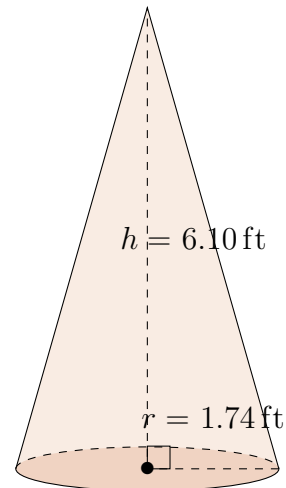
Surface Area: $44.19\,\text{ft}^2$
Volume: $19.34\,\text{ft}^3$

3.

$h = 34.05\,\text{mi}$

$r = 6.35\,\text{mi}$

Surface Area: $817.66\,\text{mi}^2$
Volume: $1437.78\,\text{mi}^3$

4.

$h = 18.85\,\text{yd}$

$r = 11.95\,\text{yd}$
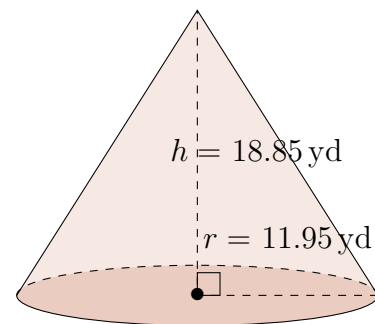
Surface Area: $1286.52\,\text{yd}^2$
Volume: $2818.87\,\text{yd}^3$

Surface Area and Volume of Cones (J)

Calculate the surface area and volume for each cone.

$$\text{Surface Area} = \pi r(r + \sqrt{h^2 + r^2}) \quad \text{Volume} = \pi r^2 \frac{h}{3}$$
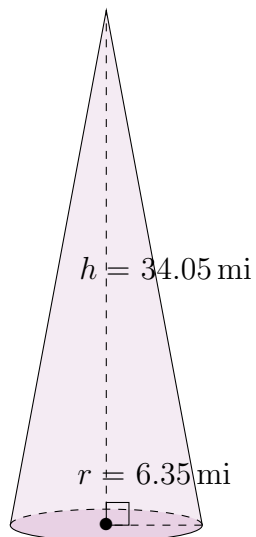
1.

$h = 17.24\,\text{km}$

$r = 11.04\,\text{km}$

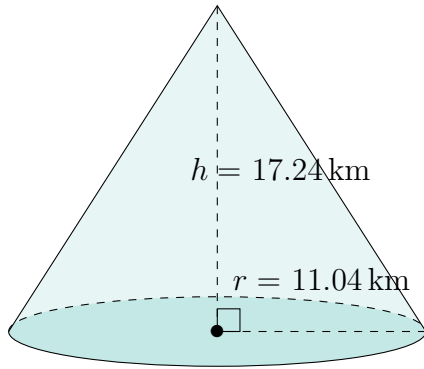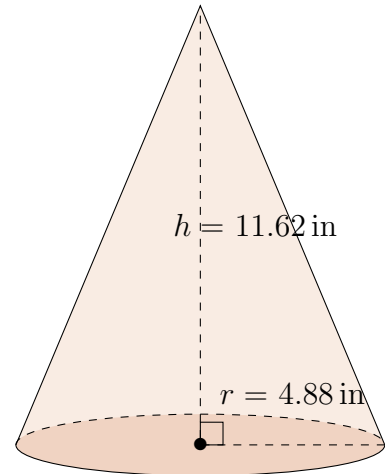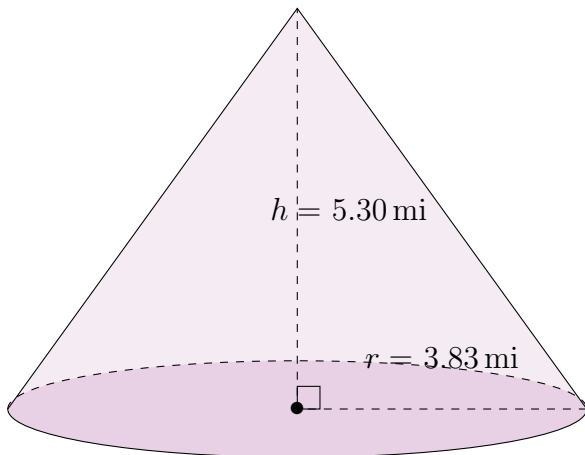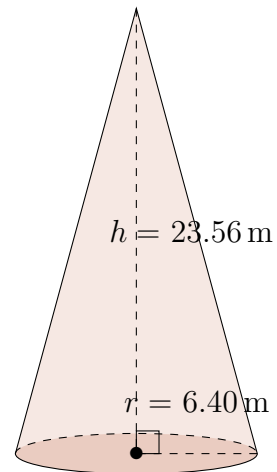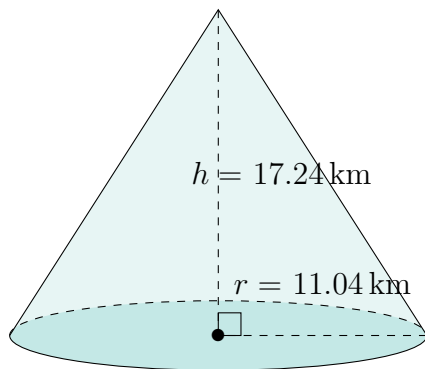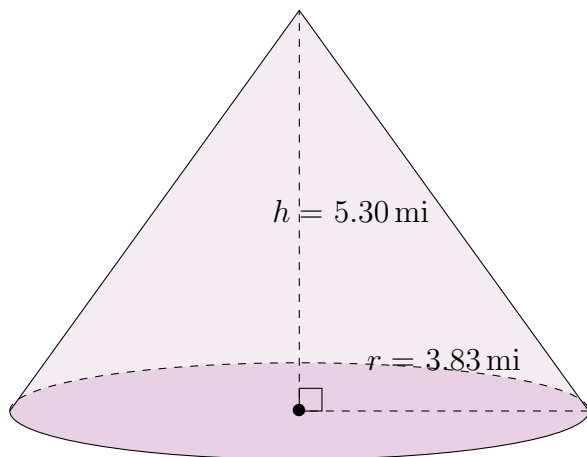2.

$h = 11.62\,\text{in}$

$r = 4.88\,\text{in}$

3.

$h = 5.30\,\text{mi}$

$r = 3.83\,\text{mi}$

4.

$h = 23.56\,\text{m}$

$r = 6.40\,\text{m}$

Surface Area and Volume of Cones (J) Answers

Calculate the surface area and volume for each cone.

Surface Area $= \pi r(r + \sqrt{h^2 + r^2})$ Volume $= \pi r^2 \dfrac{h}{3}$

1.

$h = 17.24\,\text{km}$

$r = 11.04\,\text{km}$

Surface Area: $1092.93\,\text{km}^2$
Volume: $2200.41\,\text{km}^3$

2.

$h = 11.62\,\text{in}$

$r = 4.88\,\text{in}$
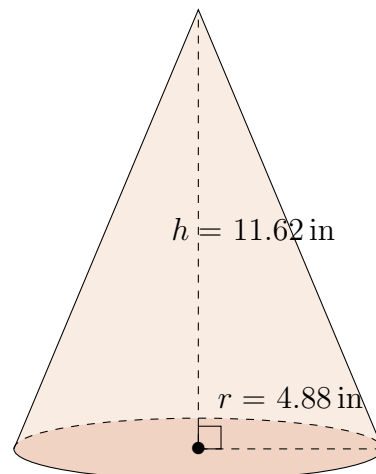
Surface Area: $268.03\,\text{in}^2$
Volume: $289.78\,\text{in}^3$

3.

$h = 5.30\,\text{mi}$

$r = 3.83\,\text{mi}$

Surface Area: $124.76\,\text{mi}^2$
Volume: $81.41\,\text{mi}^3$

4.

$h = 23.56\,\text{m}$

$r = 6.40\,\text{m}$
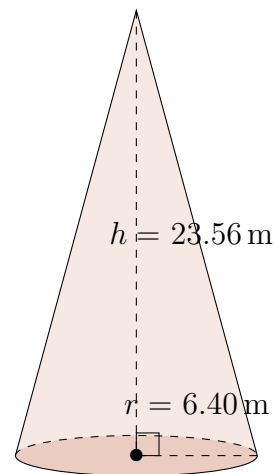
Surface Area: $619.55\,\text{m}^2$
Volume: $1010.56\,\text{m}^3$