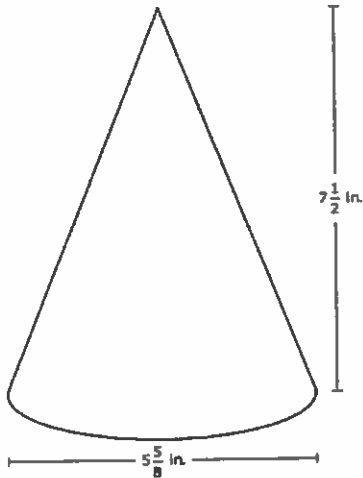# Volume Unit Test Review

Name:_____

1.) A container that holds sugar is shaped like a cylinder. The radius of the container is 3 inches, and the height of the container is 10.5 inches.

Which measurement is closest to the volume of the container in cubic inches?

A   254.47 in.³

B   296.88 in.³

C   395.84 in.³

D   197.92 in.³

2.) A cone and its dimensions are shown in the diagram.

$7\frac{1}{2}$ in.

$5\frac{5}{8}$ in.

Which measurement is closest to the volume of the cone in cubic inches?

F   186.38 in.³   H   745.51 in.³

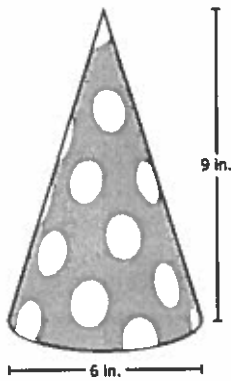G   248.50 in.³   J   62.13 in.³

3.)

A ball shaped like a sphere has a radius of 2.7 centimeters. Which measurement is closest to the volume of the ball in cubic centimeters?

A   46.38 cm³

B   33.93 cm³

C   122.15 cm³

D   82.45 cm³

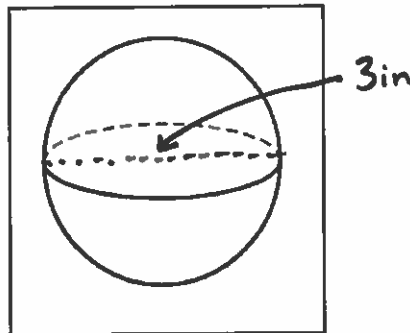A party hat is shaped like a cone. The dimensions of the party hat are shown in the diagram.

4.)

9 in.

6 in.

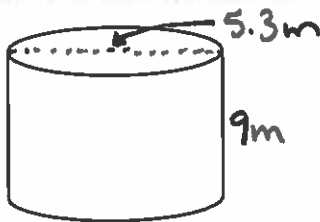Which measurement is closest to the volume of the party hat in cubic inches?

A 84.82 in.^{3}

C 254.47 in.^{3}

B 339.29 in.^{3}

D 1,017.88 in.^{3}

5.) Find the volume of the sphere that is shown

A. 3π in^3
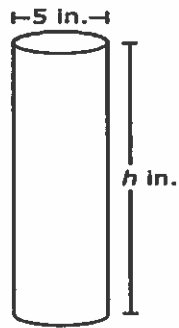
B. 13.5 in^3

C. $4.5\,\pi$ in^3

D. 4.5 in^2

3in

6.) WATER STORAGE A cylindrical water tank has a diameter of 5.3 meters and a height of 9 meters. What is the maximum volume that the water tank can hold?

5.3m

9m

A. 47.7π m^3

C. 198.6π m^3

B. $23.9\,\pi$ m^3

D. $63.2\,\pi$ m^3

7. A cylinder and its dimensions are shown in the diagram.

⊢5 in.⊣

h in.

Which equation can be used to find V, the volume of the cylinder in cubic inches?

A $V = \pi(2.5h)^2$

B $V = \pi(5h)^2$

C $V = \pi(2.5)^2 h$

D $V = \pi(5)^2 h$

8. A cone and its dimensions are shown in the diagram.

Which equation can be used to find V, the volume of the cone in cubic inches?

A. $V = \pi(5^3)(7)$

B. $V = \left(\frac{1}{3}\right)(5^2)(7)$

C. $V = \frac{\pi(5)(7)}{3}$

D. $V = \left(\frac{1}{3}\right)\pi(5^2)(7)$

9. A sphere has a radius of 6 inches.
Which equation can be used to find V, the volume of the sphere in cubic inches?

A. $V = \left(\frac{1}{3}\right)\pi(6^2)$

B. $V = \left(\frac{4}{3}\right)\pi(6^3)$

C. $V = \frac{4\pi(6^3)}{3}$

D. $V = \frac{3\pi(6^2)}{4}$

10.) Who solved it correctly?
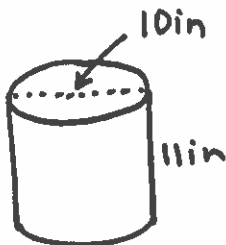
a.) Abel

$V = Bh$

$V = \pi r^2 h$

$V = \pi (5^2)(11)$

$V = \pi (25)(11)$

$V = \pi (275)$

$\boxed{V = 863.9 \, in^3}$

10in

11in

b.) Camila

$V = Bh$

$V = (5^2)(11)$

$V = (10)(11)$

$V = 110\pi$

$\boxed{V = 345.6 \, in^3}$

11.) Who solved it correctly?

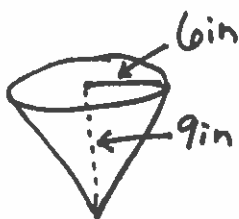**a.)** Student A.

$V = \dfrac{Bh}{3}$

$V = \dfrac{\pi r^2 h}{3} = \dfrac{\pi (6^2)(9)}{3}$

$V = \dfrac{\pi (36)(9)}{3} = \dfrac{\pi (324)}{3}$

$\boxed{V = 108\pi \, in^3}$

6in

9in

b.) Student B.

$V = \dfrac{Bh}{3}$

$V = \dfrac{\pi r^2 h}{3} = \dfrac{\pi (9^2)(6)}{3}$

$V = \dfrac{\pi (81)(6)}{3} = \dfrac{\pi (486)}{3}$

$\boxed{V = 486\pi \, in^3}$

12.) Who solved it correctly?

a.) Johnny

$V = \dfrac{4\pi r^3}{3}$

$V = \dfrac{4\pi (2)^3}{3} = \dfrac{4\pi (6)}{3}$

$V = \dfrac{24\pi}{3} = 8\pi \, cm^3$ or

$\boxed{25.1 \, cm^3}$

2cm

b.) Katy

$V = \dfrac{4\pi r^3}{3}$

$V = \dfrac{4\pi (2^3)}{3} = \dfrac{4\pi (8)}{3}$

$V = \dfrac{32\pi}{3} = 10.7\pi \, cm^3$ or

$\boxed{33.5 \, cm^3}$