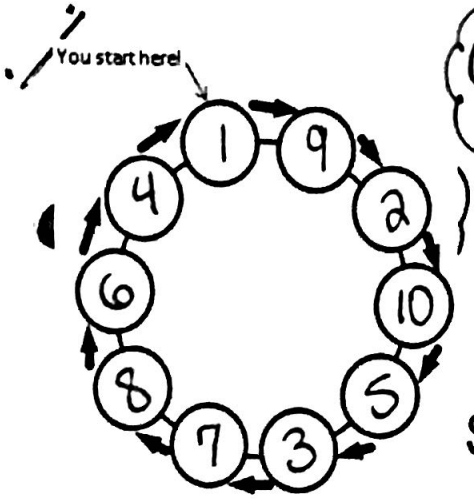


Good Luck Studying!

Name: Key

Date:

Lesson 2-9: Surface Area and Volume Quiz Review

Station Questions

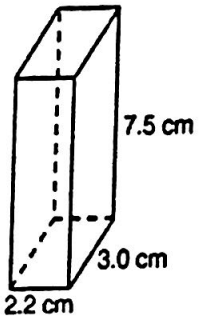
1. How many square inches of wrapping paper re needed to entirely cover a box that is 4 inches by 5 inchesy 6 inches?

   a. 148 in^2 (Go to station 9)
   b. 136 in^2 (Go to station 10)
   c. 148 in^3 (Go to station 5)
   d. 120 in^2 (Go to station 8)

$SA = 2(4\times5) + 2(4\times6) + 2(5\times6)$
$= 2(20) + 2(24) + 2(30)$
$= 148$

2. What is the total surface area of the following figure?

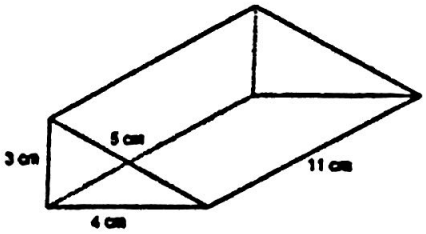
   a. 91.235 in^2 (Go to station 5)
   b. 49.5 cm^3 (Go to station 2)
   c. 91.2 cm^2 (Go to station 10)
   d. 49.5 cm^2 (Go to station 9)



$SA = 2(7.5\times3)$
$+2(7.5\times2.2)$
$+2(2.2\times3)$
$= 91.2$

3. What is the volume of the following figure?

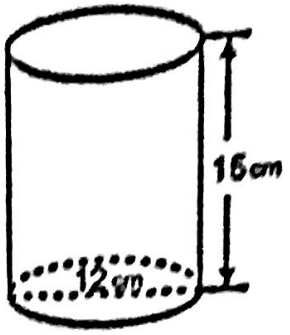
   a. 126 cm^3 (Go to station 5)
   b. 132 cm^3 (Go to station 8)
   c. 66 cm^3 (go to station 7)
   d. 120 cm^2 (Go to station 2)



$V = (\text{Area of base}) \times H$
$V = (\Delta \text{ area}) \times H$
$V = \frac{1}{2}(3)(4)(11) = 66$

4. A can of Campbell's chicken noodle soup is shown to the right. The label only covers the curved surface of the can. What is the total area of the soup label rounded to the nearest square centimeter.

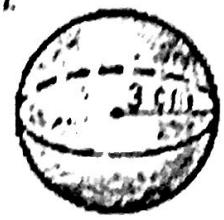
a. 580cm² (Go to station 3)
b. 792cm² (Go to station 7)
c. 565cm² (Go to station 1)
d. 1696cm² (Go to station 10)



$S.A = \pi dh$
$= \pi(12)(15)$
$= 565.486\ldots$

5. What is the total surface area of the following sphere, *in terms of PI.*

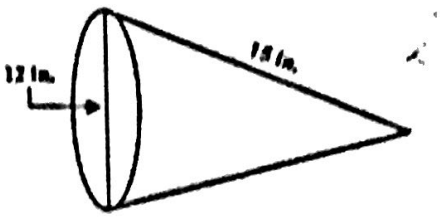
a. 36π (Go to station 7)
b. $36\ \pi cm^2$ (Go to station 3)
c. $36\ \pi^2$ (Go to station 5)
d. $12\ \pi cm^2$ (Go to station 1)



$SA = 4\pi r^2$
$= 4\pi(3)^2$
$= 36\pi$

6. Find the *lateral surface area* of the give solid. Round your answer to the nearest tenth of a square inch.

a. 282.7 square inches (Go to station 4)
b. 290.8 square inches (Go to station 5)
c. 565.5 square inches (Go to station 8)
d. 674.8 square inches (Go to station 9)



Lateral $S.A. = \pi r l$
$= \pi(6)(15)$
$= 282.7$

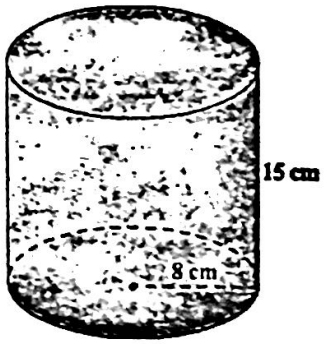
7. When you blow up a balloon it forms a sphere because it is trying to hold as much air as possible with as small a surface as possible. How much air, to the nearest tenth of a cubic inch, is being held by a spherical balloon with a diameter of 12 inches?

a. $2714.3\ cm^2$ (Go to station 1)
b. 150.8 square inches (Go to station 2)
c. 904.8 square inches (Go to station 6)
d. $904.8\ in^3$ (Go to station 8)

$V = \frac{4}{3}\pi r^3$
$= \frac{4}{3}\pi(6)^3$
$= 904.7786842$

8. Find the surface area of the following figure. Leave your answer in terms of Pi.

a. $368\pi^2$ (Go to station 7)
b. $368\pi cm^2$ (Go to station 6)
c. $240\pi cm^2$ (Go to station 8)
d. $128\pi cm^2$ (Go to station 9)



$SA = 2\pi r^2 + \pi dh$
$= 2\pi(8)^2 + \pi(16)(5)$
$= 368\pi$

9. The volume of a cylinder is 12,566.4 cm^3. The height of the cylinder is 8 cm. Find the radius of the cylinder to the *nearest tenth of a centimeter.*

a. 22.4cm (Go to station 2)
b. $30.6cm^2$ (Go to station 1)
c. 32.0cm (Go to station 7)
d. $22.4cm^2$ (Go to station 10)

$V = \pi r^2 h$
$\frac{12,566.4}{8\pi} = \frac{\pi r^2(8)}{8\pi}$
$\sqrt{r^2} = \sqrt{500.0011692}$
$r = 22.36\ldots$

10. What is the volume of the following three dimensional object?

a. $120\ ft^2$ (Go to station 1)
b. $148\ ft^3$ (Go to station 2)
c. $120\ ft^3$ (Go to station 5)
d. 220 cubic feet (Go to station 3)

$V = lxwxh$
$= 6x4x5$
$= 120ft^3$