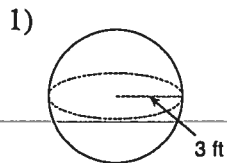
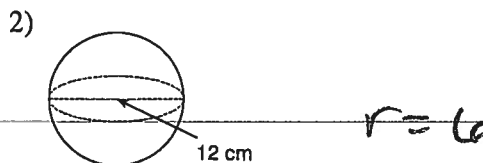


Spheres

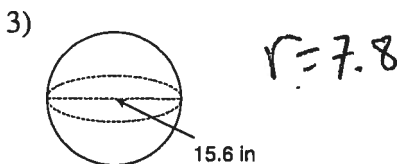
Find the surface area of each figure. Round your answers to the nearest tenth, if necessary.



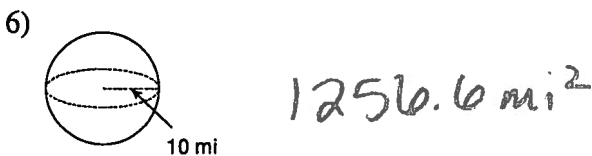
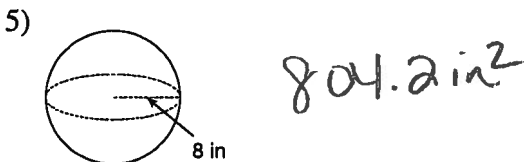
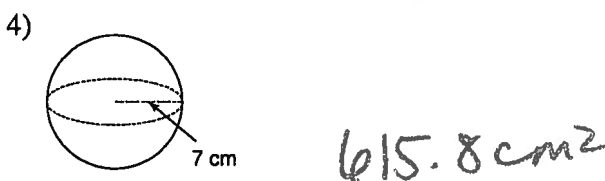
$113.1 \text{ ft}^2$



$452.4 \text{ cm}^2$



$764.5 \text{ in}^2$



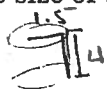
7) A sphere with a diameter of 6.2 in.   
  $r = 3.1$

$120.8 \text{ in}^2$

8) A sphere with a radius of 10 mi.

$1256.6 \text{ mi}^2$

21) A Campbell's soup can is a cylinder that is 4 inches tall with a radius of 1.5 inches. Campbell's will double the size of the can to increase sales of their soup. How much area is added to the new can's label?



$$2\pi r h$$

$$2\pi(1.5)(4)$$

$$12\pi$$

$$2\pi r h$$

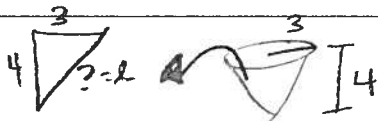
$$2\pi(3)(8)$$

$$48\pi$$

$$48\pi - 12\pi$$

$$36\pi \text{ in}^2 \text{ added}$$

22) Snow cone holders are sold in sleeves of 50. How much paper is needed for each sleeve if the cones are 4 inches tall and have a radius of 3 inches?

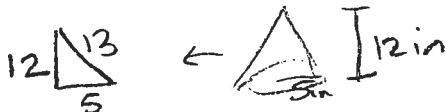


$$\pi r l = \pi(3)(5)$$

$$15\pi \text{ for one} \times 50 = 750\pi \text{ in}^2$$

$$2356 \text{ in}^2$$

23) New Year's Eve party hats are in the shape of a cone. The hats are 12 inches tall and have a diameter of 10 inches. How much will it cost to create 1000 hats, if paper is \$.75 per 144 square inches? (Remember hats do not have bottoms?)



$$\pi r l = \pi(5)(13)$$

$$= \pi(5)(13)$$

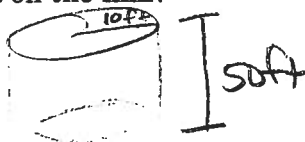
$$65\pi \text{ for one} \times 1000 = 65000\pi \text{ in}^2$$

$$65000 \div 144 = 451.39$$

$$\times .75 = 338.54$$

$$= \$1063.56$$

24) The Aquarium Downtown has a cylindrical fish tank that is 50 feet tall and 20 feet in diameter. Once the tank was built they had to apply a film to the outside of the tank to limit the light that came into the tank. How much film was needed to coat the tank? If the film is \$1.50 per 20 square feet, then how much was spent on the film?



$$2\pi r h$$

$$2\pi(10)(50)$$

$$1000\pi \text{ sq ft}$$

$$1000\pi \div 20 = 157.08$$

$$\times 1.50$$

$$\text{No top} \rightarrow \$235.62$$

1 TOP  
\$203.1  
2 TOP  
\$290

25) Tennis balls are sold in cylinders, and have a label on them that only covers half the side of the cylinder. This is done so buyers can see the bright colors of the balls in the container. If the cylinder is 14 inches tall and has a diameter of 4 inches, then what is the area of the label?



$$2\pi r h$$

$$2\pi(2)(14) = 56\pi / 2 = 28\pi \text{ in}^2$$

26) A Coke can is the shape of a cylinder with a height of 6 inches and a radius of 1.5 inches. How many cans can be made from a sheet of aluminum that is 10 feet long and 6 feet wide?



$$2\pi r^2 + 2\pi r h$$

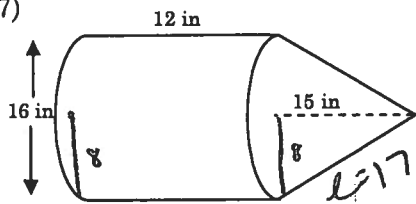
$$2\pi(1.5)^2 + 2\pi(1.5)(6) = 4.5\pi + 18\pi = 22.5\pi \approx 70.686 \text{ in}^2$$

$$120 \text{ in} \times 72 \text{ in} = 8640 \text{ in}^2$$

$$122 \text{ cans}$$

Find the exact surface area of the figure. Leave answers exact.

27)



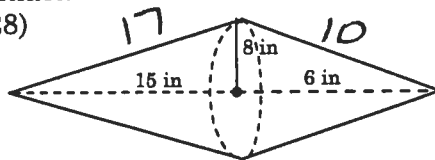
$$\pi r^2 + 2\pi r h + \pi r l$$

$$\pi(8)^2 + 2\pi(8)(16) + \pi(8)(17)$$

$$64\pi + 192\pi + 136\pi$$

$$392\pi \text{ sq in}$$

28)



$$\pi r l + \pi r l$$

$$\pi(8)(17) + \pi(8)(10)$$

$$136\pi + 80\pi$$

$$216\pi \text{ in}^2$$