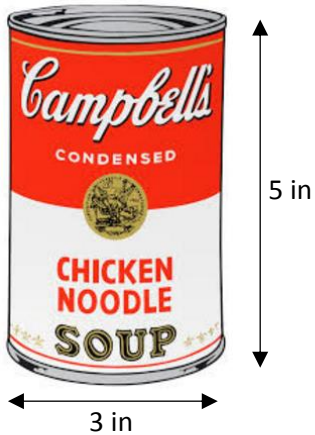Aim: How can we find surface area and lateral area (Day 2)?

Do Now: Campbell's Soup is designing a new label for their soup cans. But, they lost the old dimensions! First they must draw the net of the whole can. Then find the dimensions of the net.

5 in

3 in

```
Surface Area of a Cylinder =
```

Find the surface area of the cylinder if the diameter is 16 inches. Leave your answer in terms of pi.

21 in
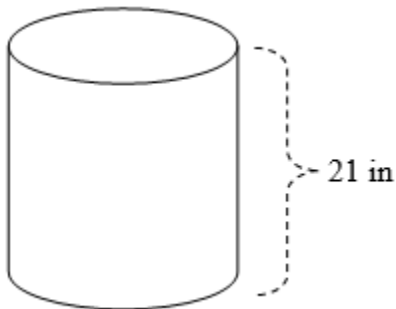
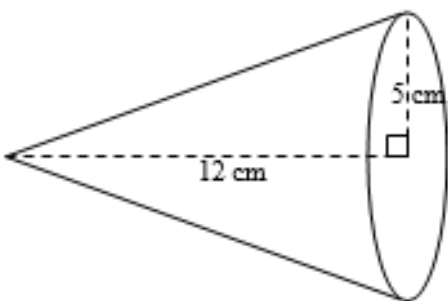Find the lateral area of the cylinder. Leave your answer in terms of pi.

6 cm

13 cm
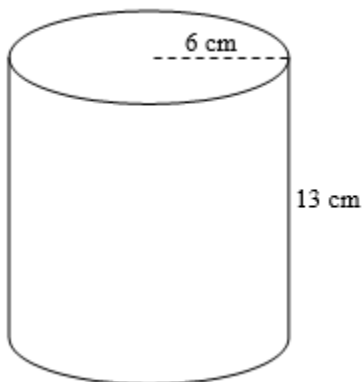
```
┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
│         Lateral Area of a Cone =         │
│                                          │
└ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
```
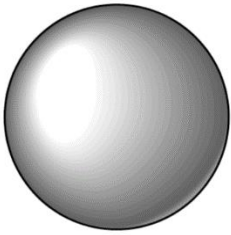
Find the lateral area of the cone in terms of pi:

17 cm

5 cm
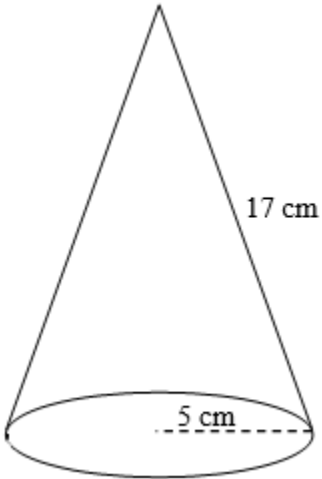
What is the surface area of the cone above in terms of pi?

Find the lateral area of the cone below in terms of pi:
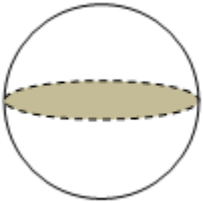
5 cm

12 cm

Surface Area of a Sphere =

What is the surface area of a sphere whose radius measures 17 inches?

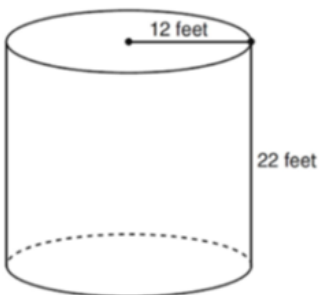What is the surface area of a sphere whose diameter measures 20 inches?

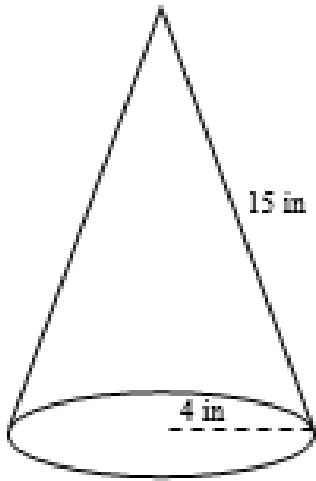What is the surface area of the sphere if the shaded area = 64π in^2

Practice Problems

1. In a cylinder, the height measures 10 and the radius measures 5. Find the surface area of the cylinder to the nearest tenth.
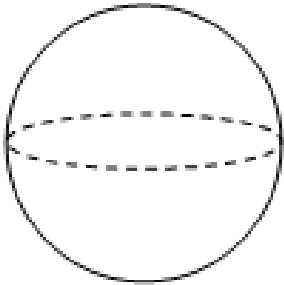
2. The cylindrical tank shown in the diagram below is to be painted. The tank is open at the top and the bottom does not need to be painted. Each can of paint covers 600 ft^2. How many cans of paint must be purchased to complete the job?

12 feet

22 feet

3. What is the lateral area and surface area of this cone in terms of pi?

15 in

4 in

4. What is the surface area of this sphere in terms of pi if the circumference is 5π?

5. As shown in the diagram below, a landscaper uses a cylindrical lawn roller on a lawn. The roller has a radius of 9 inches and a width of 42 inches.

42 in

9 in

To the *nearest square inch*, the area the roller covers in one complete rotation is
1) 2,374
2) 2,375
3) 10,682
4) 10,688