

## Flash Cards: Drawing the Surfaces of a Three-Dimensional Figure

**Directions:** For each three-dimensional figure, draw the 'net', or the surfaces of the figure when they are laid out flat. Label all dimensions.

1. A rectangular prism with dimensions 4 by 5 by 3.
2. A rectangular prism with front face that has congruent sides measuring 6.5 and third dimension is 2.7.
3. A triangular prism with right triangular face with legs measuring 8 feet and 15 feet, and distance between triangular faces measuring 3 feet.
4. A triangular prism with equilateral triangular face with sides measuring 7 inches and distance between triangular faces measuring 3 inches.
5. A cylinder with radius 15 centimeters and height 21 centimeters.
6. A cylinder with diameter 9 feet and height 7.8 feet.

Answers:

1. Two rectangles that measure 4 by 5, two rectangles that measure 5 by 3 and two rectangles that measure 4 by 3.

2. Four rectangles that measure 6.5 by 2.7, two squares that measure 6.5 by 6.5.

3. There is one dimension not given. It is the hypotenuse of the right triangle.

$$8^2 + 15^2 = c^2$$

$$64 + 225 = c^2$$

$$289 = c^2$$

$$17 = c$$

Therefore the hypotenuse of the triangle is 17 in.

We will need this information when we find the surface area and volume.

Two right triangles with legs 8 feet and 15 feet. One rectangle that measures 8 feet by 3 feet, one rectangle that measures 15 feet by 3 feet and one rectangle that measures 17 feet by 3 feet.

4. Therefore the hypotenuse of the triangle is 17 in.

We will need this information when we find the surface area and volume.

$$3.5^2 + h^2 = 7^2$$

$$12.25 + h^2 = 49$$

$$h^2 = 36.75$$

$$h \approx 6.06$$

Therefore the height of the triangle is approximately 6.06 in.

We will need this information when we find the surface area and volume.

Two triangles with base 7 inches and height 6.06 inches, and three rectangles measuring 7 inches by 3 inches.

5. The length of the rectangle is equal to the circumference of the circle.

$$C = 2\pi r = 2\pi(15) = 30\pi.$$

Two circles with radius 15 centimeters and one rectangle measuring  $30\pi$  centimeters by 21 centimeters.

6. The radius of the circular base is 4.5 ft.

The length of the rectangle is equal to the circumference of the circle.

$$C = 2\pi r = 2\pi(4.5) = 9\pi.$$

Two circles with radius 4.5 feet and one rectangle measuring  $9\pi$  feet by 7.8 feet.