Geometry Workbook

Volume and surface area

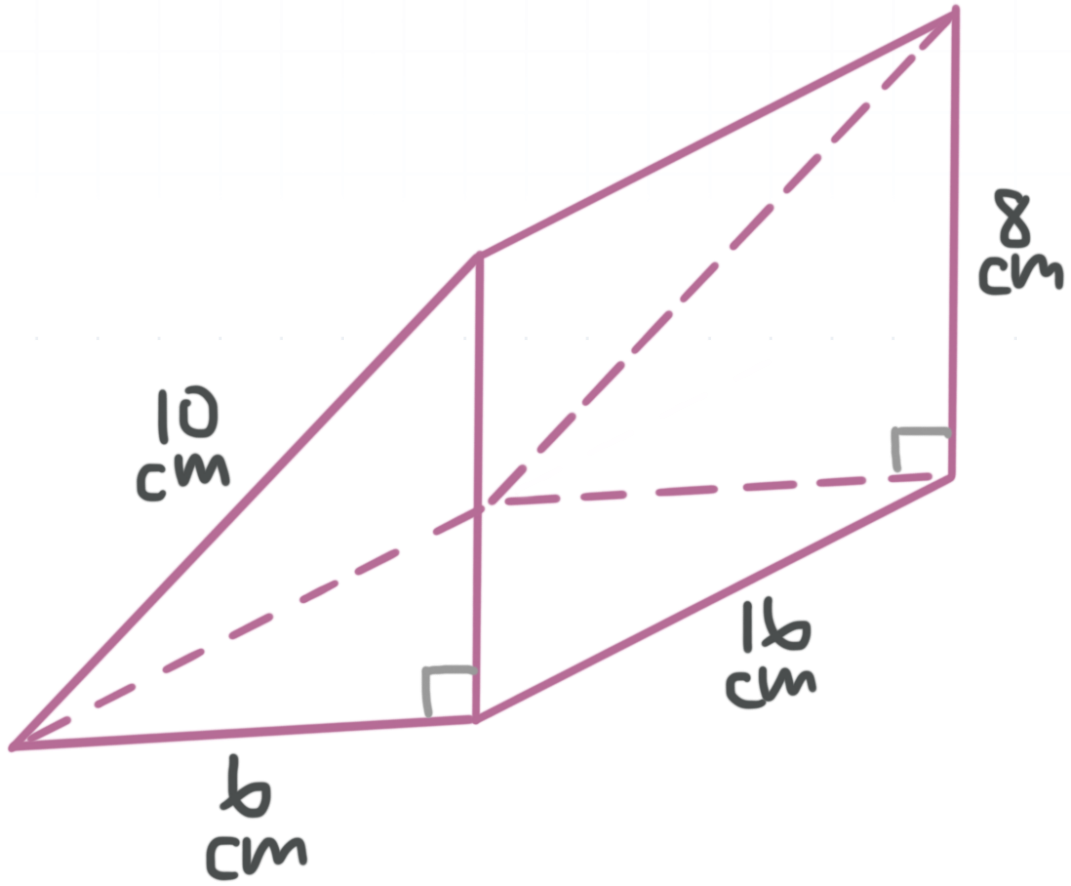
krista king MATH

NETS/VOLUME/SURFACE AREA OF PRISMS

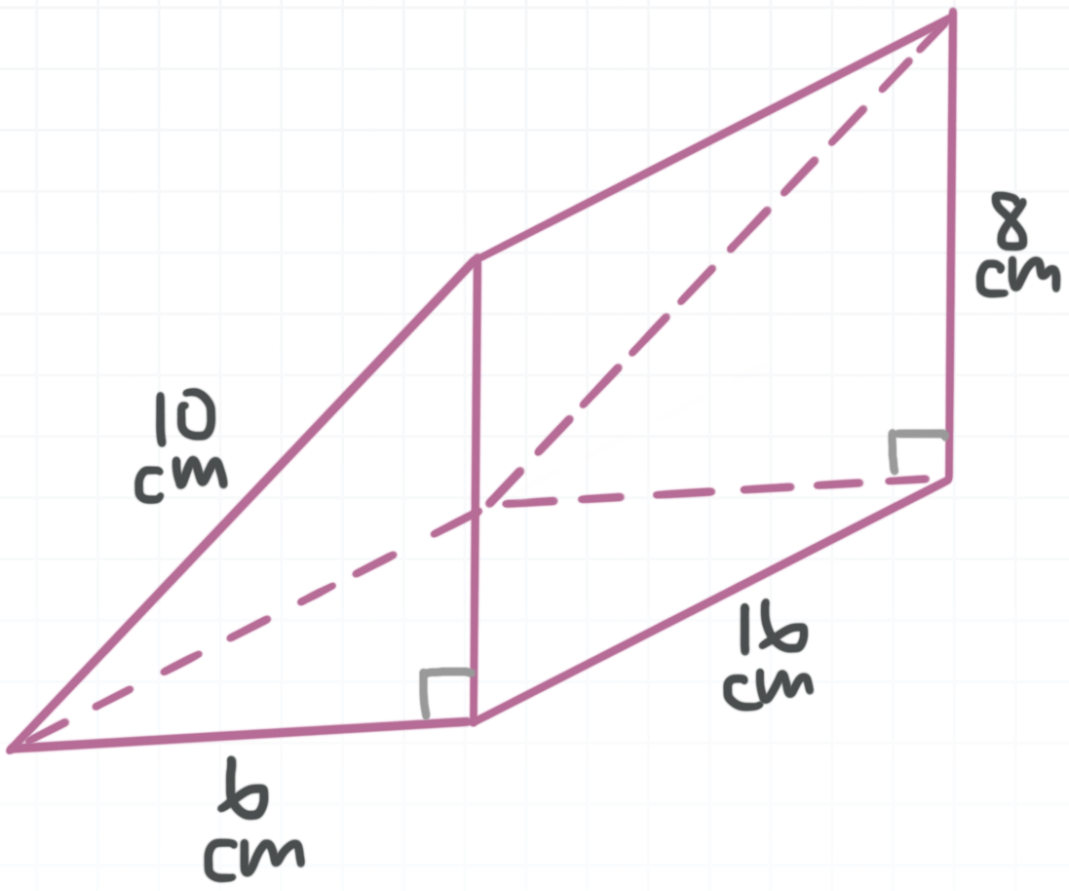
■ 1. Find the volume of a rectangular prism with length 14 feet, width 10 feet, and height 5 feet.

■ 2. Find the surface area of a rectangular prism with length 14 feet, width 10 feet, and height 5 feet.

■ 3. Find the surface area of the triangular prism.



■ 4. Find the volume of the triangular prism.



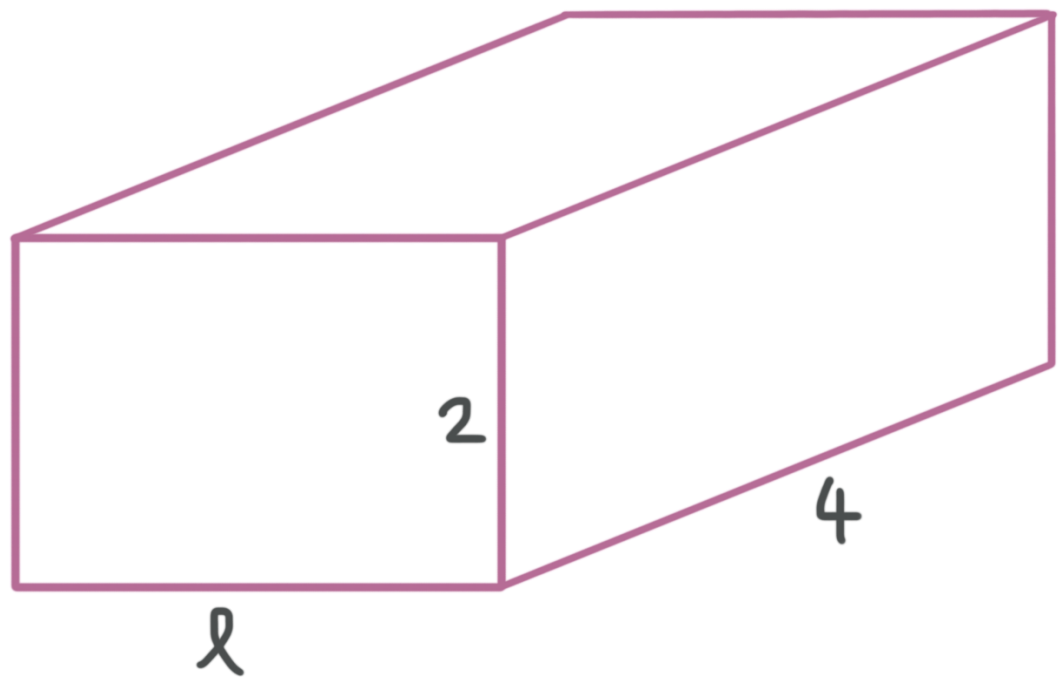
SURFACE AREA TO VOLUME RATIO OF PRISMS

■ 1. A rectangular prism has length, width, and height of 5 inches. Find the ratio of its surface area to its volume.

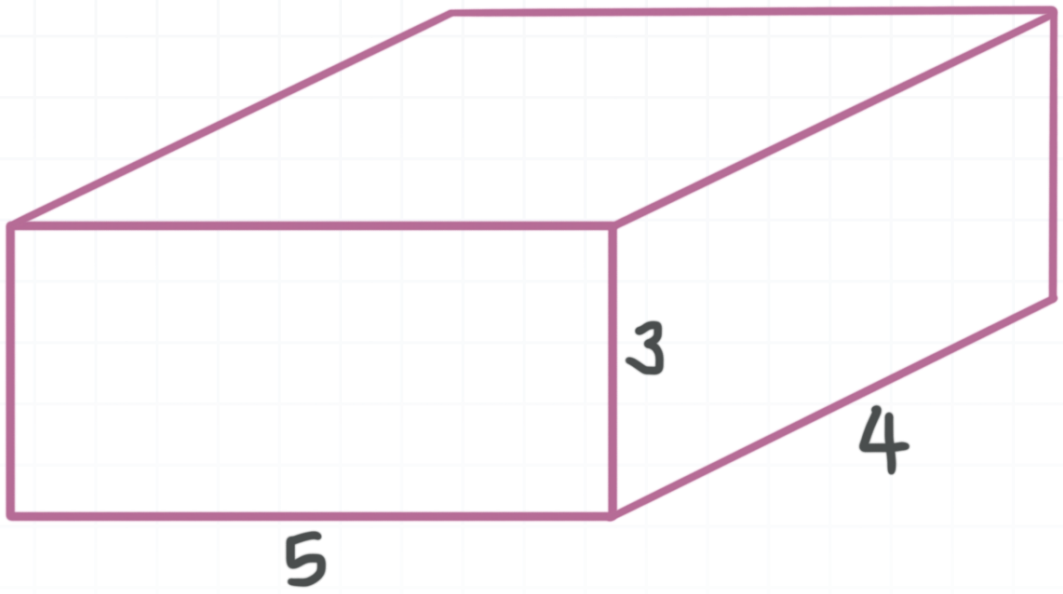
■ 2. A cube has a volume of 216 in^3. Suppose we double the length of each side of the cube. What is the ratio of the smaller cube to the larger cube?

■ 3. In lowest terms, find the ratio of volume to surface area of a cube with side length x.

■ 4. The ratio of the volume to surface area for the following rectangular prism is $1 : 2$. Find the length of the prism.

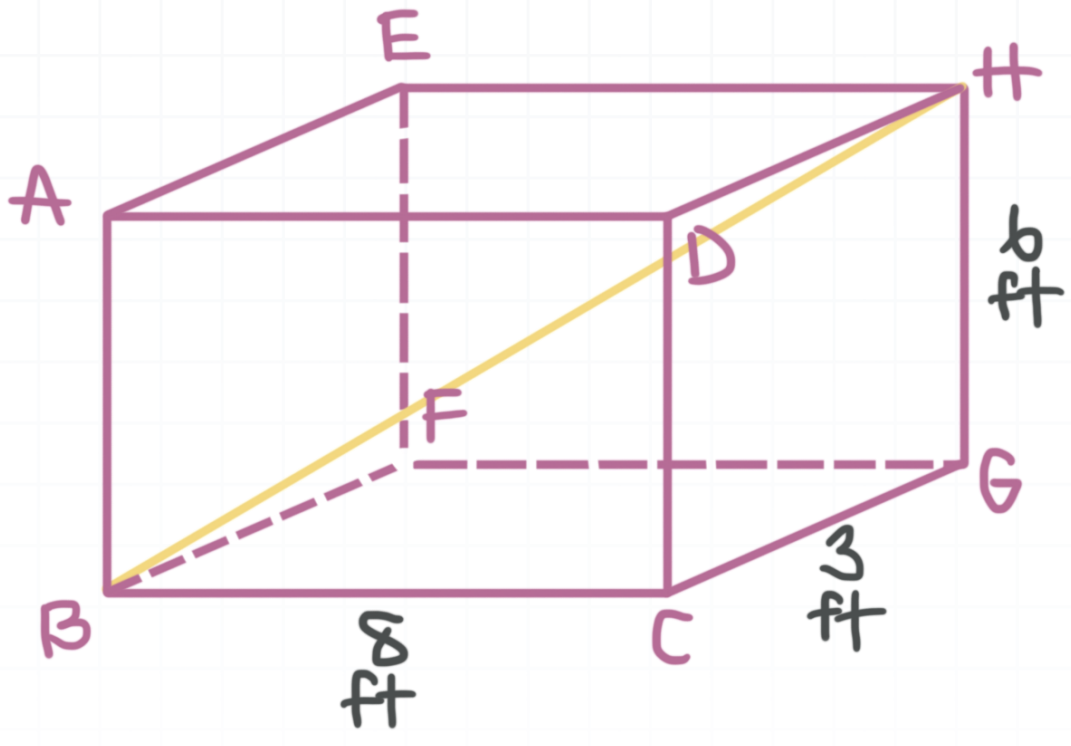


5. How many times greater will the surface area of this rectangular prism be if we double each side length?



DIAGONAL OF A RIGHT RECTANGULAR PRISM

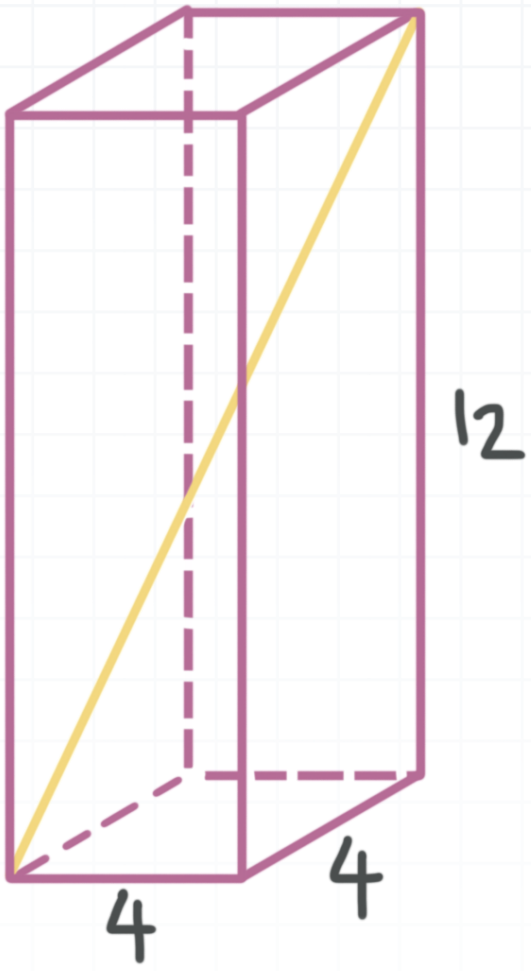
1. Find the length of BH in the right rectangular prism.



2. Find the length of the diagonal of a cube with side length 10.

3. If the length of the diagonal of a cube is $4\sqrt{3}$, find the length of each side of the cube.

4. Find the length of the diagonal of the right rectangular prism.



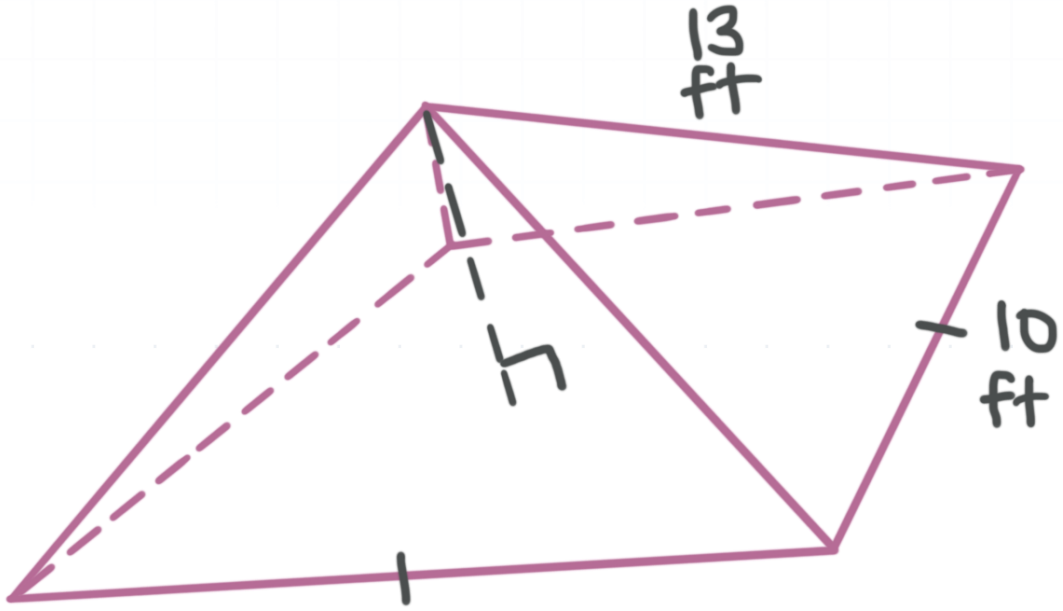
5. A right, rectangular prism has dimensions $4 \times 5 \times x$. Find the value of x if the diagonal is $5\sqrt{2}$.

NETS/VOLUME/SURFACE AREA OF PYRAMIDS

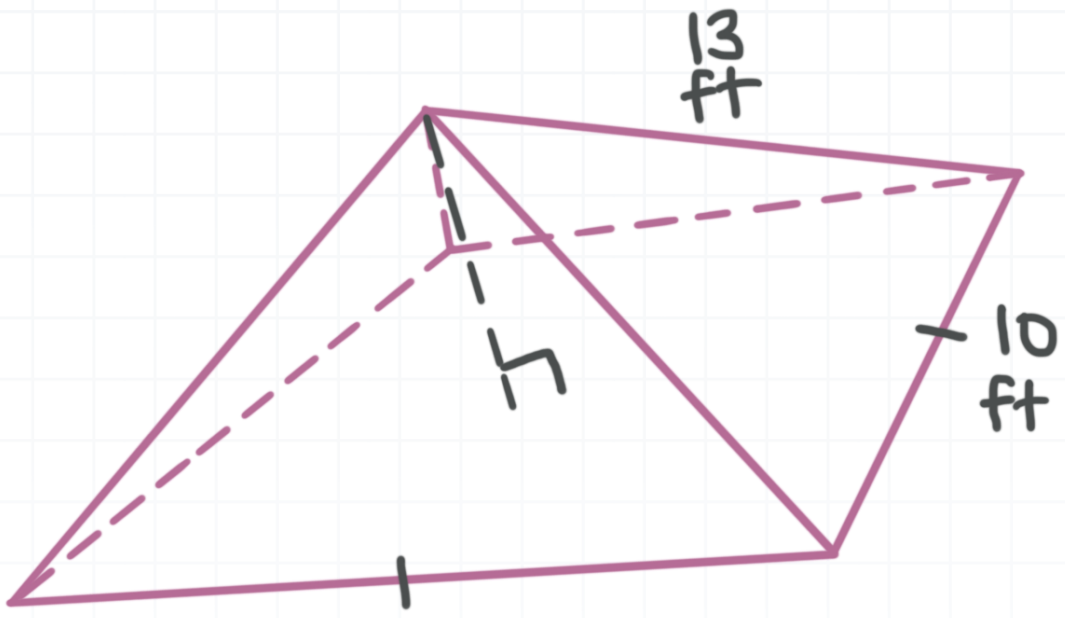
■ 1. A pyramid has a square base with area 25 ft^2 and height 6 feet. Find the volume of this pyramid.

■ 2. A pyramid has a square base with area 25 ft^2 and height 6 feet. Find the surface area of this pyramid.

■ 3. Find the surface area of the pyramid.



■ 4. Find the height of the following pyramid to the nearest tenth. Then find its volume.

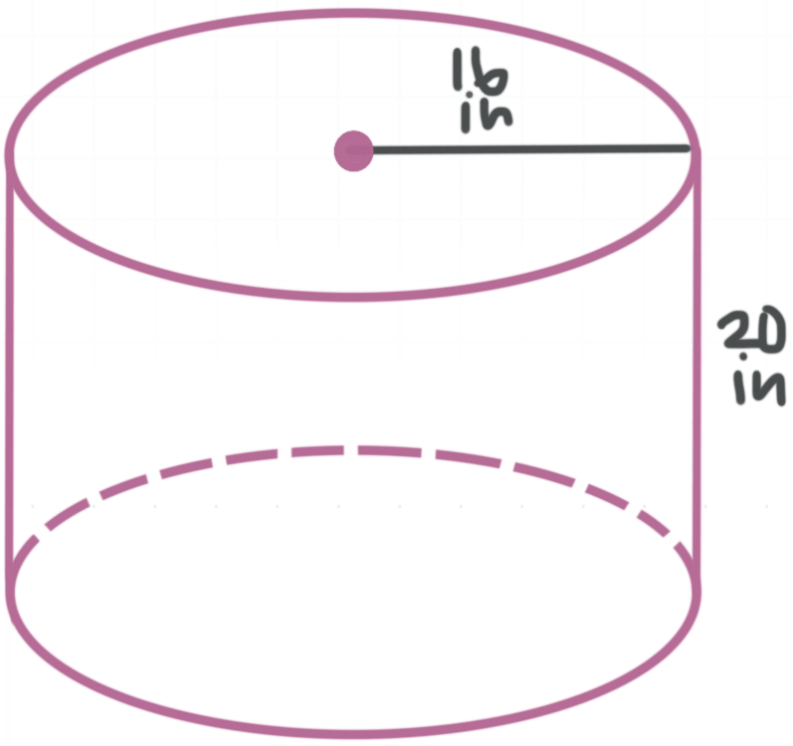


NETS/VOLUME/SURFACE AREA OF CYLINDERS

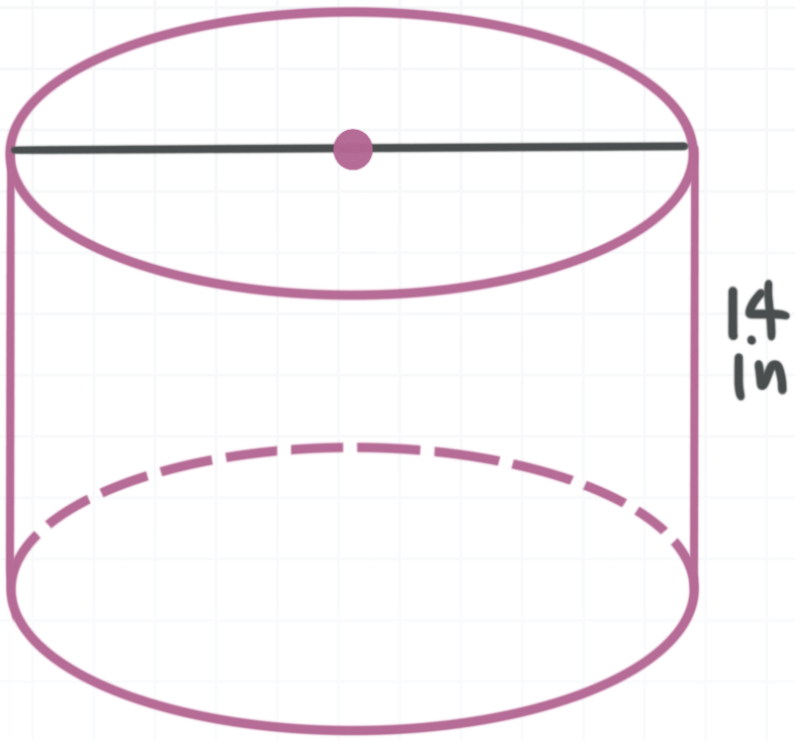
- 1. Find the volume of a cylinder with diameter 10 cm and height 12 cm.

- 2. Find the height of a cylinder with volume $2{,}814.867$ in^3 and radius 8.

- 3. Find the surface area of the cylinder.



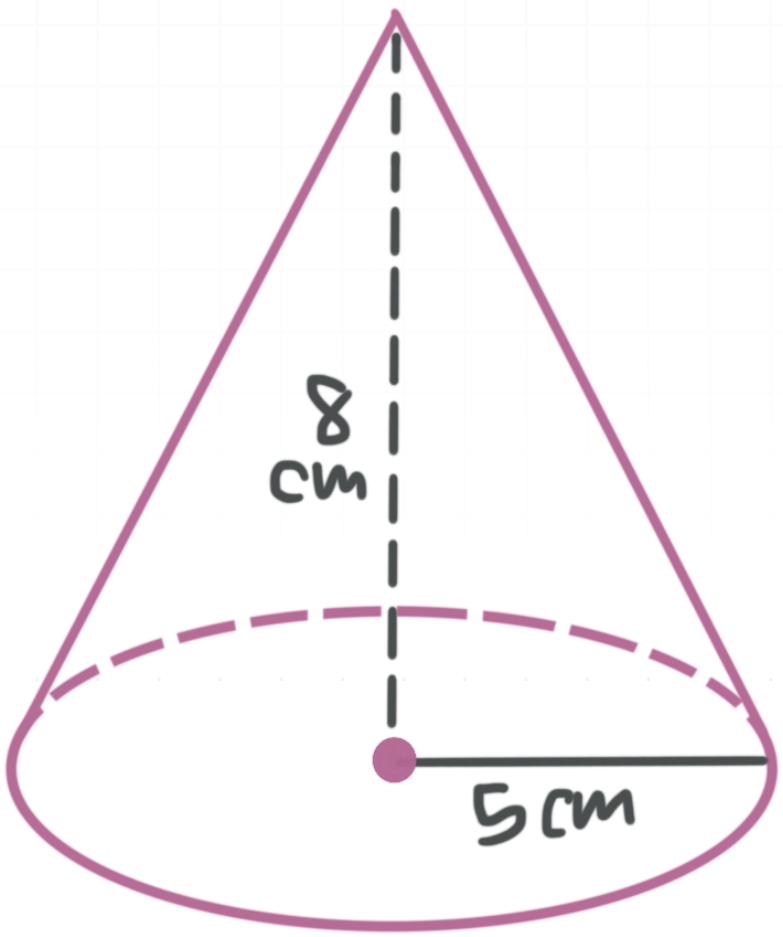
- 4. The circumference of the base of the cylinder is 62.832 inches. Find its volume.



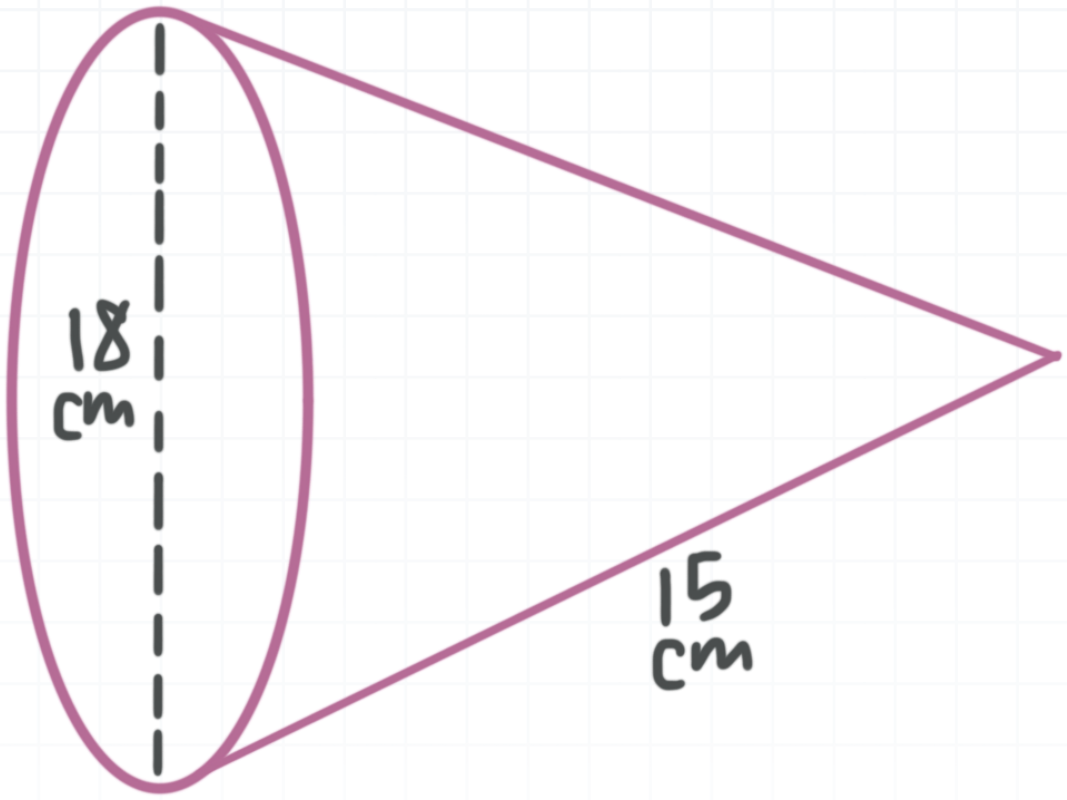
NETS/VOLUME/SURFACE AREA OF CONES

■ 1. Find the volume of a right cone with a height of 10.5 inches and a diameter of 8 inches at its base to the nearest hundredth.

■ 2. Find the slant height of the cone.



■ 3. Find the surface area of the cone in terms of π.



4. The volume of a cone is 100π. Find the length of its radius if its height is 12.

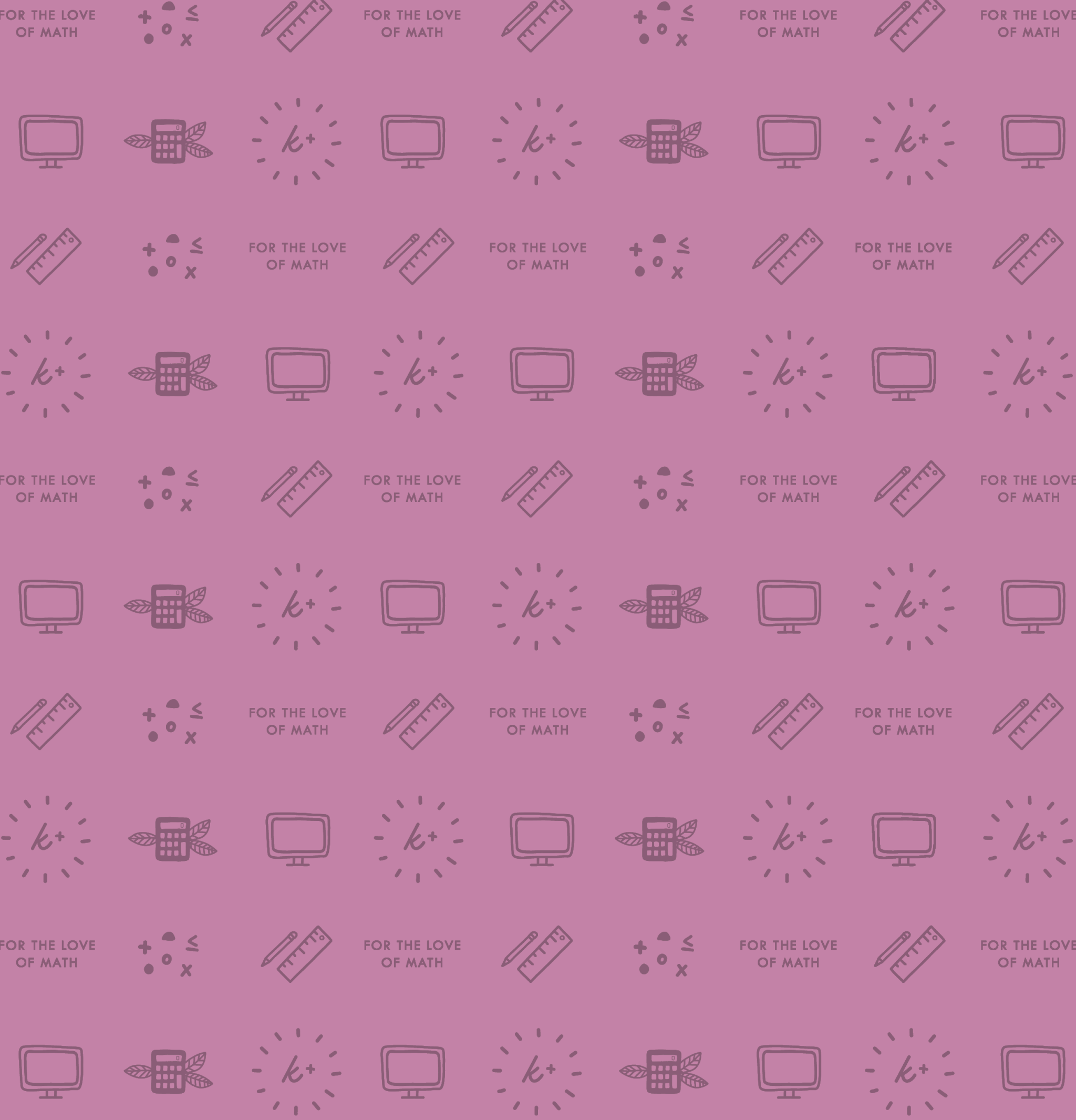
VOLUME/SURFACE AREA OF SPHERES

1. Find the volume to the nearest hundredth of a sphere with radius 15 inches.

2. A basketball has a diameter of 9.55 inches. Find its surface area to the nearest hundredth.

3. A sphere has radius 10. How much greater is the volume than the surface area in terms of π?

4. A sphere has a volume of 288π. Find its diameter.



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