

Let r be the radius of the base.

$$6^2 + r^2 = 9^2$$

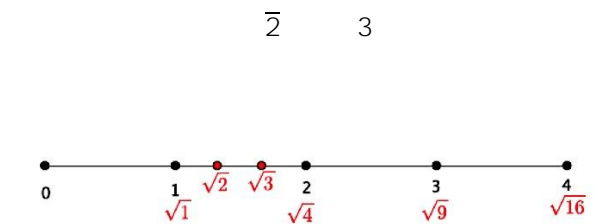
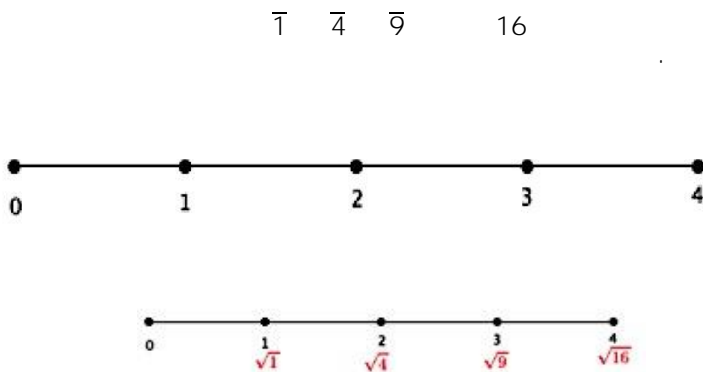
$$36 + r^2 = 81$$

$$r^2 = 45$$

The area of the base is 45π .

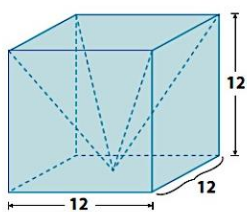
$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}45\pi(6)$$

$$V = 90\pi$$


Solutions are shown by $\sqrt{2}$ and $\sqrt{3}$ on the number line between 1 and 2. They could be more specific by saying that if you divide the segment between integers 1 and 2 into three equal parts, then $\sqrt{2}$ is the first point and $\sqrt{3}$ is the second point.

1. Write an expression for the volume of the prism shown above with the pyramid portion removed. Explain what each part of your expression represents.



$$12^3 - \frac{1}{3}(12^3)$$

The expression 12^3 is the volume of the cube and $\frac{1}{3}(12^3)$ is the volume of the pyramid.

2. What is the volume of the prism shown above with the pyramid portion removed?

<p>The volume of the prism is</p> $V = 12^3$ $= 1,728$	<p>The volume of the pyramid is</p> $V = \frac{1}{3}(1,728)$ $= 576$
<p>The volume of the prism with the pyramid removed is 1,152 units³.</p>	