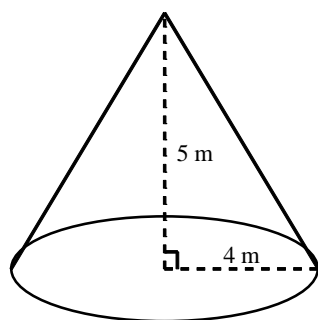


*P.I. G.G.15: Apply the properties of a right circular cone, including: lateral area equals one-half the product of the slant height and the circumference of its base, and volume is one-third the product of the area of its base and its altitude*

1. Find the volume of the cone.



- [A]  $16.76 \text{ m}^3$       [B]  $83.78 \text{ m}^3$   
 [C]  $26.67 \text{ m}^3$       [D]  $251.33 \text{ m}^3$

2. Find the volume of the cone that has a diameter of 8 feet and a height of 15 feet. (Use 3.14 for  $\pi$ .)

- [A]  $251.2 \text{ ft}^3$       [B]  $753.6 \text{ ft}^3$   
 [C]  $1004.8 \text{ ft}^3$       [D]  $376.8 \text{ ft}^3$

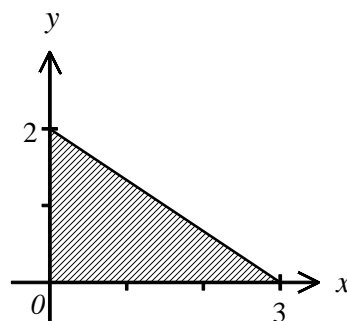
3. Find the volume of the cone that has a diameter of 14 feet and a height of 22 feet. (Use 3.14 for  $\pi$ .)

- [A]  $3384.92 \text{ ft}^3$       [B]  $1128.31 \text{ ft}^3$   
 [C]  $4513.23 \text{ ft}^3$       [D]  $967.12 \text{ ft}^3$

4. Calculate the volume of a cone with height 9 feet and radius 5 feet.

5. Calculate the volume of a cone with height 6 feet and radius 4 feet.

6. Find the difference in the volumes of the cones created by rotating the triangle shown below around the  $x$ -axis and around the  $y$ -axis. Write your answer in terms of  $\pi$ .



7. An hourglass, composed of two cones, is 12 cm tall. The radius of each cone is 3 cm. If you want to fill the bottom half of the

hourglass  $\frac{2}{3}$  full of salt, how much salt will you need?

8. The lateral area of a cone is  $20\pi \text{ in.}^2$ . If the radius is 10 in., find the slant height.

- [A] 0.5 in.      [B]  $2.0\pi$  in.  
 [C] 2.0 in.      [D]  $0.5\pi$  in.

9. Find the lateral area and surface area of an equilateral triangle base right prism with base edge 5 and height 9.

Geometry Practice: G.G.15

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[1] B

[2] A

[3] B

[4] 235.62 ft<sup>3</sup>

[5] 100.53 ft<sup>3</sup>

[6]  $2\pi$  cu units

[7] 37.68 cm<sup>3</sup>

[8] C

[9] Lateral area: 135, Surface area:  $135 + \frac{25}{2}\sqrt{3}$