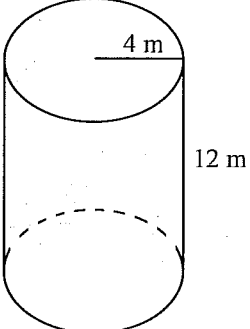


Geometry Chapter 12 and 7 Practice Test
T. Bixler

Name Key
Date _____ Per. _____

1. Find the volume of the following. Assume each solid is a regular right cylinder, prism, and pyramid

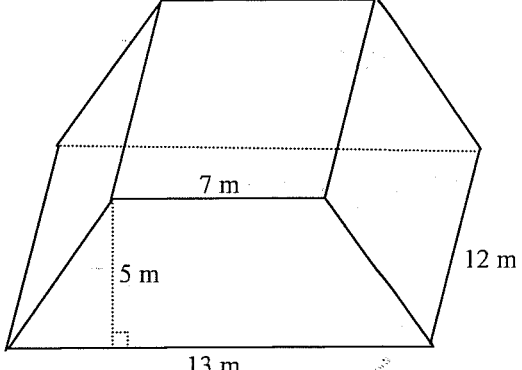
a)



$$V = Bh = \pi r^2 h = \pi(16)(12) = 192\pi$$

Volume = 192π m^3

b)

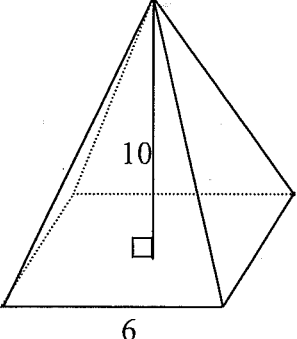


$$V = Bh \quad B = \left(\frac{13+7}{2}\right)(5)$$

$$V = 50(12) \quad B = 50$$

Volume = 600 m^3

c)

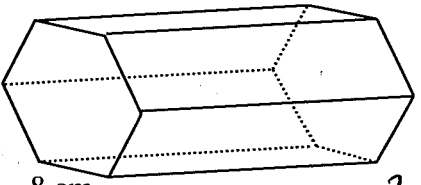


$$V = \frac{1}{3} Bh \quad B = 36$$

$$V = \frac{1}{3}(36)(10) = 120$$

Volume = 120 u^3

d) A right regular hexagonal based prism




$$V = Bh \quad \left(\frac{s}{2}\right)^2 \sqrt{3}$$

$$B_{\text{Hexagon}} = 6\Delta = (6)(16\sqrt{3})$$

$$B = 96\sqrt{3} \quad V = (96\sqrt{3})(20)$$

Volume = $1920\sqrt{3}$ cm^3

2. Find the total surface area and volume of a hemisphere with a radius of 8 ft.



$$TSA = \pi r^2 + \frac{1}{2}(4\pi r^2)$$

circle + $\frac{1}{2}$ sphere

$$= \pi(64) + \frac{1}{2}(4\pi(64)) = 192\pi$$

$$Volume = \left(\frac{1}{2}\right) \frac{4}{3} \pi r^3 = \frac{1024\pi}{3}$$

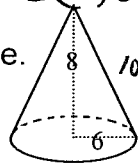
Geometry Chapter 12 Practice Test

3. The base of a right rectangular prism is 12 cm by 8 cm. Its height is 5 cm. Find its surface area.
 $(2)(12)(8) + 2(12)(5) + 2(8)(5) = 392 \text{ cm}^2$

4. Find the volume and surface areas of the cone.

$$V = \frac{1}{3} Bh = \frac{1}{3} \pi r^2 h$$

$$V = \frac{1}{3} \pi (6)^2 (8) = 96\pi$$



$$TSA = \pi r^2 + \pi r l$$

$$= \pi (36) + \pi (6)(10)$$

$$= 36\pi + 60\pi = 96\pi$$

5. The radius of the base of a right circular cone is 7 in and the slant height is 25 in. Find the total surface area and volume to three decimal places. Use your pi button for pi.

$$TSA = \pi r^2 + \pi r l = \pi (7)^2 + \pi (7)(25) = 224\pi = 703.717 \text{ in}^2$$

For questions 6-8 refer to the figure at the right.

$$Vol. = Bh = (49\pi)(24) = 1176\pi = 3694.513 \text{ in}^3$$



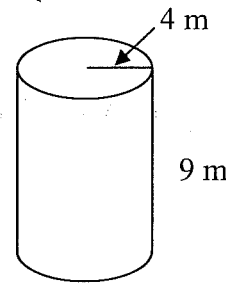
6. Find the lateral area.

$$2\pi r h = 2\pi (4)(9) = 72\pi \text{ m}^2$$

7. Find the surface area.

$$\pi r^2 + 2\pi r h$$

$$16\pi + 2(\pi)(4)(9) = 88\pi \text{ m}^2$$



8. Find the volume.

$$\pi r^2 h = \pi (16)(9) = 144\pi \text{ m}^3$$

9. The volume of a cube is 64 in^3 . Find the surface area.

$$V = s^3 \quad s = 4$$

$$64 = s^3 \quad \text{Area} = (6)(4)(4) = 96 \text{ in}^2$$

10. Find the surface area of a sphere with a radius of 5 in.

$$4\pi r^2 = 4\pi (25) = 100\pi$$

11. Find the volume and surface area of a sphere that has a radius of 6 km.

Volume $288\pi \text{ km}^3$

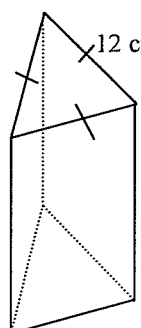
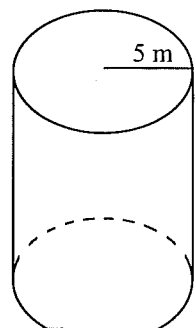
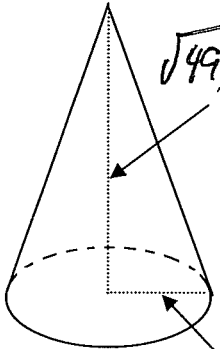
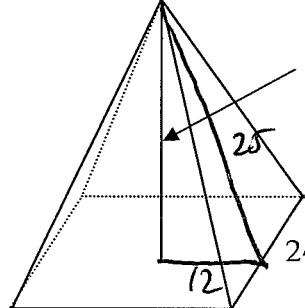
Surface Area 144π

$$\frac{4\pi r^3}{3} = \frac{4\pi (6)(6)(6)}{3}$$

$$4\pi r^2 = 4\pi (6)(6)$$

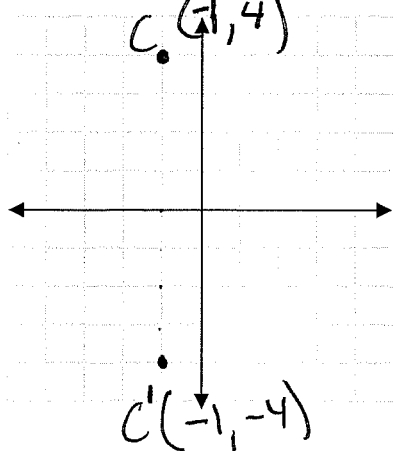
Geometry Chapter 12 Practice Test

12. Find the total **surface area** for the following regular right prism, cylinder, pyramid, and cone.

<p>a)</p>  <p> $B = 36\sqrt{3}$ $2B = 72\sqrt{3}$ $3 \square =$ $3(20)(12)$ </p> <p>$S = 720 + 72\sqrt{3}$</p>	<p>b)</p>  <p> $2\pi r^2 + 2\pi rh$ $2\pi(25) + 2\pi(5)(9)$ $50\pi + 90\pi$ </p> <p>$S = 140\pi \text{ m}^2$</p>
<p>c)</p>  <p> $\sqrt{49+16} = \sqrt{65}$ 7 in 4 in $LSA =$ $\pi r l =$ $\pi(4)(\sqrt{65})$ $4\pi\sqrt{65}$ </p> <p> $\text{Base} = \pi r^2 = 16\pi$ </p> <p>$S = 16\pi + 4\pi\sqrt{65}$</p>	<p>d)</p>  <p> 24 ft 24 ft 24 ft 24 ft 25 16 12 </p> <p> $LSA = 4\left(\frac{1}{2}\right)(24)(25)$ $= 1200$ </p> <p> $\text{Base} = 576$ </p> <p>$S = 576 + 1200 = 1776$</p>

Graph the given points and its reflection

13. C(-1,4) in the x-axis



14. D(1,3) in the y-axis

