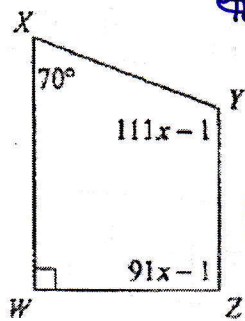


Name: Key

PreAP Geometry Spring Final Exam Review

Find the measure of each angle indicated.

1. $m\angle Z$



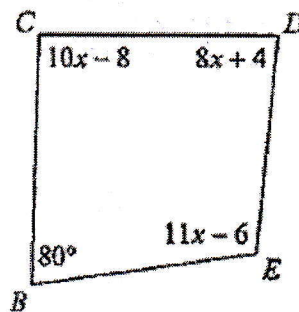
$$91x - 1 = 90$$

$$91x = 91$$

$$x = 1$$

$$m\angle Z = 90^\circ$$

2. $m\angle E$



$$29x - 10 + 80 = 360$$

$$29x + 70 = 360$$

$$29x = 290$$

$$x = 10$$

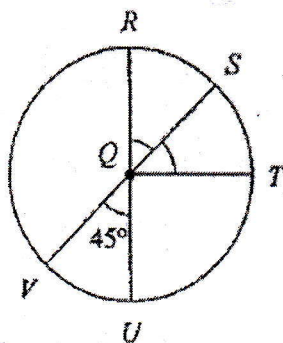
$$m\angle E = 11(10) - 6$$

$$= 104^\circ$$

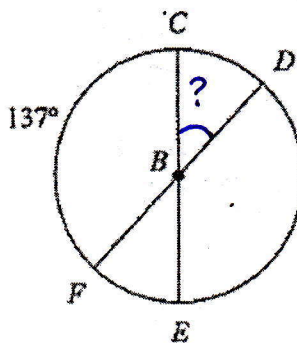
Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

3. $m\angle VQR$

$$= 135^\circ$$



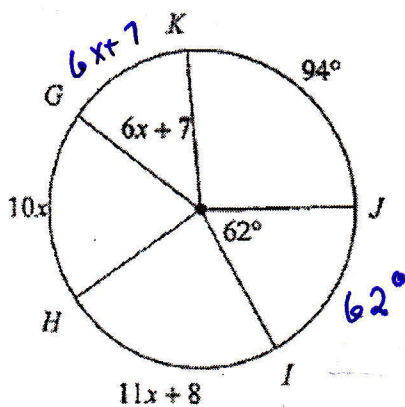
4. $m\angle CBD$



$$180^\circ - 137^\circ$$

$$= 43^\circ$$

5. $m\widehat{HG}$



$$6x + 7 + 10x + 11x + 8 + 62 + 94 = 360^\circ$$

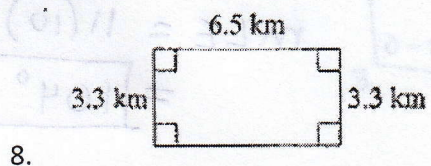
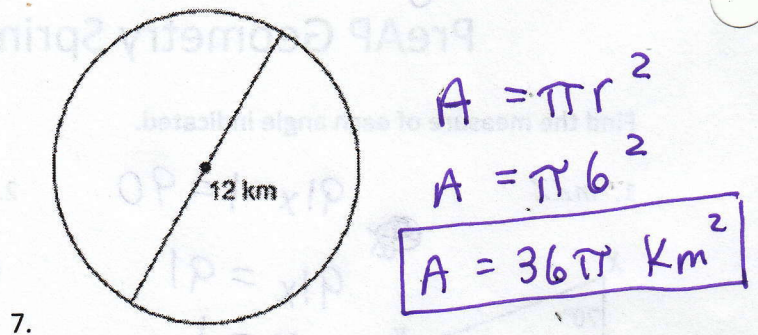
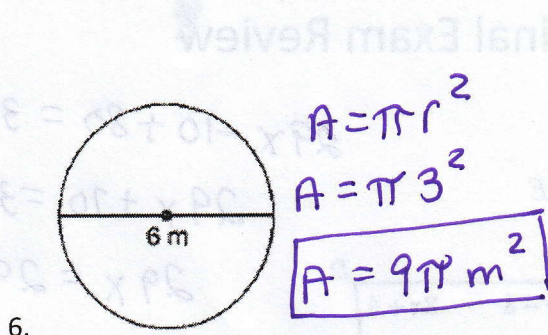
$$27x + 171 = 360$$

$$27x = 189$$

$$x = 7$$

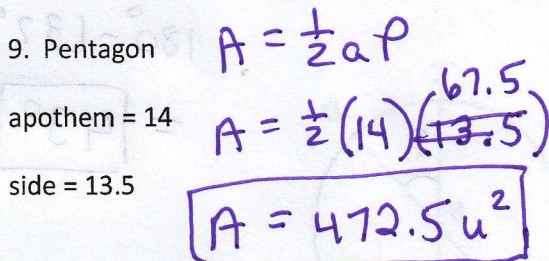
$$m\widehat{HG} = 10(7) = 70^\circ$$

Find the area of each. You may leave π in your answer or round to the nearest tenth.



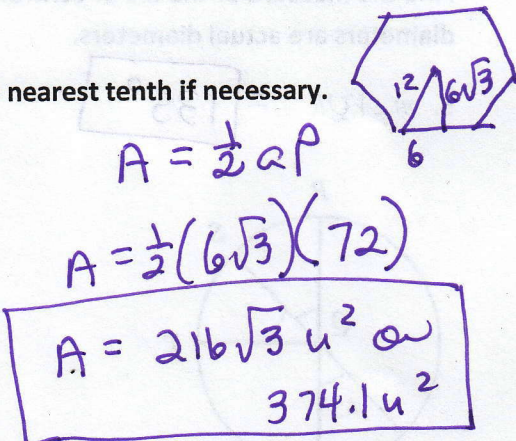
$A = bh$
 $A = (6.5)(3.3) = 21.5 \text{ km}^2$

Find the area of each regular polygon. Round your answer to the nearest tenth if necessary.

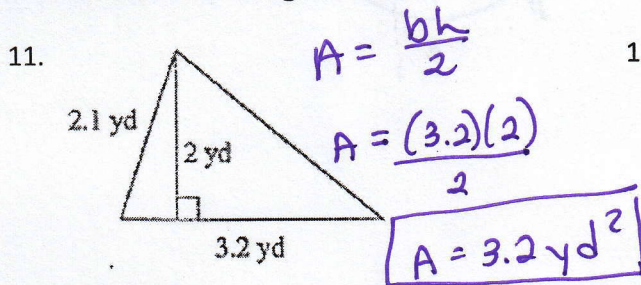


10. Hexagon

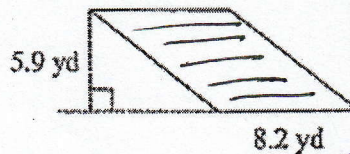
radius = 12



Find the area of each figure below.

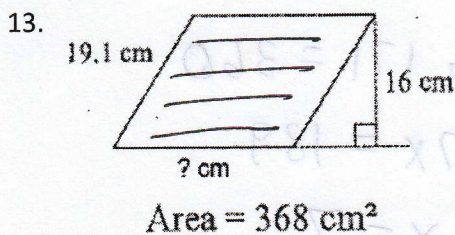


12.



$A = bh$
 $A = (8.2)(5.9)$
 $A = 48.4 \text{ yd}^2$

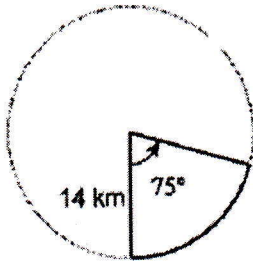
Find the missing measurement. Round to the nearest tenth if necessary.



$A = bh$
 $368 = b \cdot 16$
 $b = 23 \text{ cm}$

Find the area of each sector.

14.

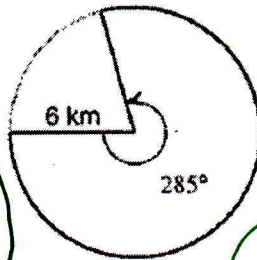


$$\frac{75}{360} = \frac{x}{196\pi}$$

$$x = \frac{245\pi}{6} \text{ km}^2$$

$$\approx 128.3 \text{ km}^2$$

15.



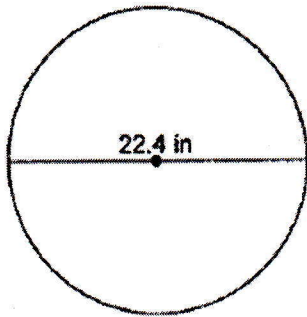
$$\frac{285}{360} = \frac{x}{36\pi}$$

$$x = \frac{57\pi}{2} \text{ km}^2$$

$$\approx 89.5 \text{ km}^2$$

Find the area of the circle below.

16.



$$A = \pi r^2$$

$$A = \pi (11.2)^2$$

$$A = 125.44\pi \text{ in}^2$$

$$\approx 394.1 \text{ in}^2$$

17. What is the circumference of a circle whose area is $9\pi \text{ cm}^2$?

$$\pi r^2 = 9\pi$$

$$r^2 = 9$$

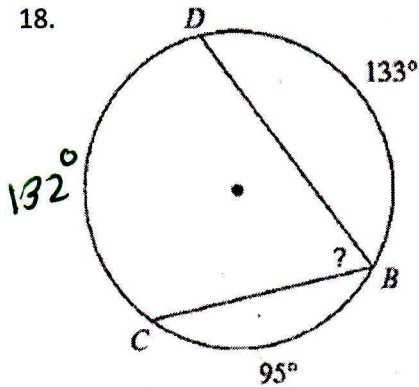
$$r = 3$$

$$C = \pi d$$

$$C = 6\pi \text{ cm}$$

Find the measure of the arc or angle indicated.

18.

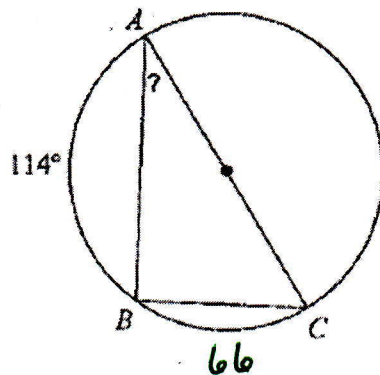


$$360 - 133 - 95 = 132$$

$$m\angle B = \frac{1}{2}(132)$$

$$m\angle B = 66^\circ$$

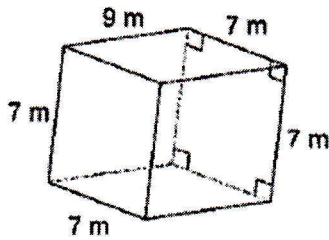
19.



$$m\angle A = 33^\circ$$

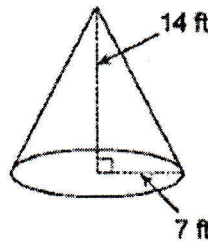
Find the volume of each figure below. Round your answers to the nearest hundredth if necessary.

20.



$$V = 7(9)(7)$$

$$V = 441 \text{ m}^3$$



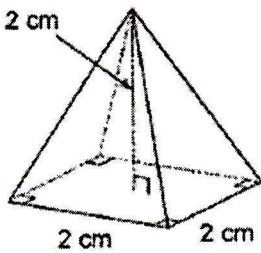
$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}(\pi 7^2)(14)$$

$$V = \frac{686\pi}{3} \text{ ft}^3$$

$$\approx 718.4 \text{ ft}^3$$

22.



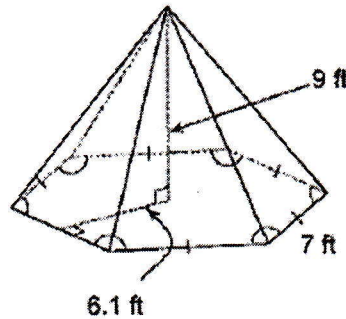
$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}(4)(2)$$

$$V = \frac{8}{3} \text{ cm}^3$$

$$\approx 2.7 \text{ cm}^3$$

23.



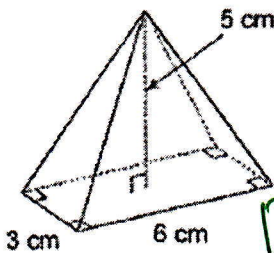
$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}(\frac{1}{2} \cdot 42 \cdot 6.1)$$

$$\cdot 9$$

$$V = 384.3 \text{ ft}^3$$

24.

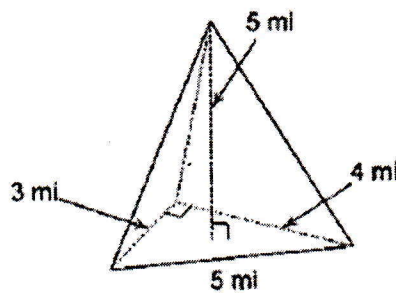


$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}(18)(5)$$

$$V = 30 \text{ cm}^3$$

25.

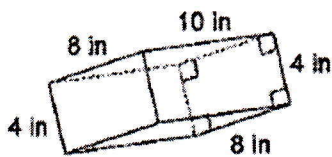


$$V = \frac{1}{3}Bh$$

$$V = \frac{1}{3}(6)(5)$$

$$V = 10 \text{ mi}^3$$

26.

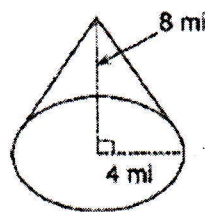


$$V = Bh$$

$$V = (80)(4) \text{ in}^3$$

$$V = 320 \text{ in}^3$$

27.



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

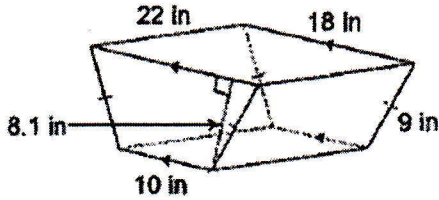
$$V = \frac{1}{3}(16\pi)(8)$$

$$V = \frac{128\pi}{3} \text{ mi}^3$$

$$\approx 134.0 \text{ mi}^3$$

Find the lateral and total surface area of the figure below. Round answers to the nearest tenth if necessary.

28.



$$L = Ph$$

$$p = 9 + 9 + 10 + 18 = 46$$

$$L = (46)(22) = 1012 \text{ in}^2$$

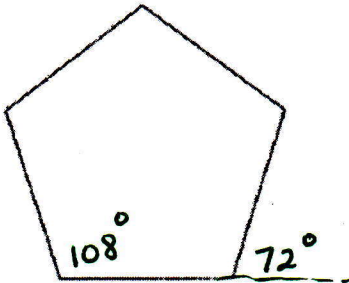
$$B = \frac{1}{2}(8.1)(10 + 18) = 113.4$$

$$T = Ph + 2B$$

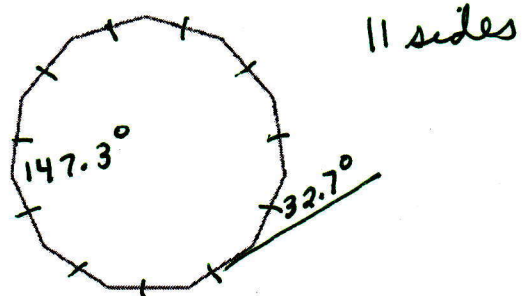
$$T = 1012 + 2(113.4) = 1238.8 \text{ in}^2 = T$$

Find the measure of one interior angle in each polygon. Round your answer to the nearest tenth if necessary.

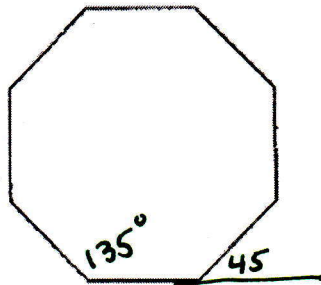
29.



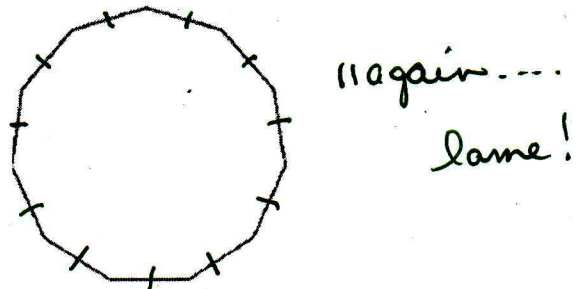
30.



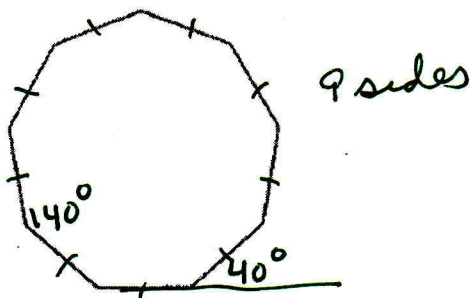
31.



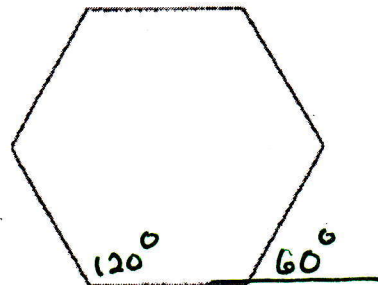
32.



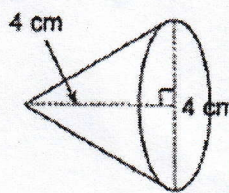
33.

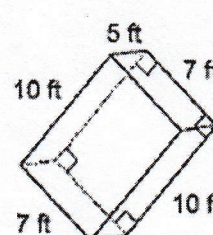


34.

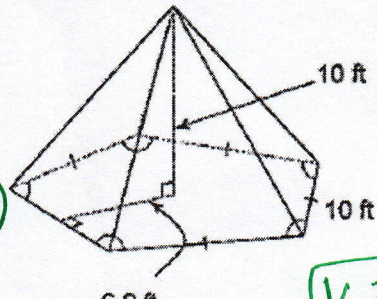


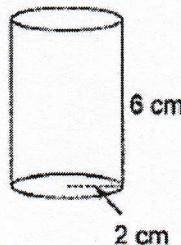
Find the volume of each figure. Round your answers to the nearest hundredth if necessary.

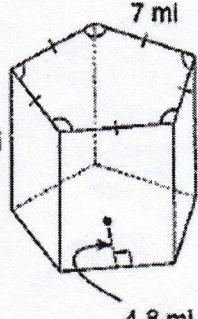
35.  $V = \frac{1}{3}Bh$
 $V = \frac{1}{3}(4\pi)(4)$
 $V = \frac{16\pi}{3} \text{ cm}^3$
 $\approx 16.76 \text{ cm}^3$

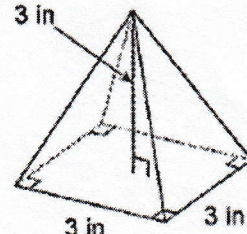
36.  $V = Bh$
 $V = (70)(5)$
 $V = 350 \text{ ft}^3$

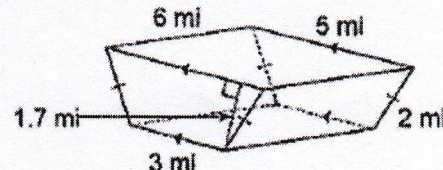
Find the volume of each figure. Round your answers to the nearest hundredth if necessary.

37.  $V = \frac{1}{3}Bh$
 $V = \frac{1}{3}(172.5)(10)$
 $V = 575 \text{ ft}^3$
 $B = \frac{1}{2}Pw$
 $\frac{1}{2}(50)(6.9)$

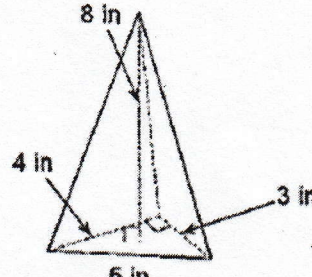
38.  $V = Bh$
 $V = (4\pi)(6)$
 $V = 24\pi \text{ cm}^3$
 $\approx 75.40 \text{ cm}^3$

39.  $V = Bh$
 $V = (84)(10)$
 $V = 840 \text{ mi}^3$
 $B = \frac{1}{2}(35)(4.8)$
 $B = 84$

40.  $V = \frac{1}{3}Bh$
 $V = \frac{1}{3}(9)(3)$
 $V = 9 \text{ in}^3$

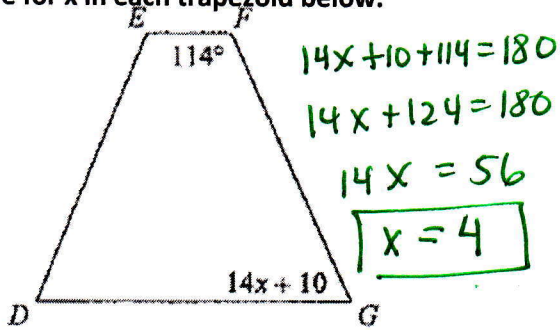
41. 

$B = \frac{1}{2}(1.7)(3+5)$
 $B = 6.8$
 $V = Bh$
 $V = (6.8)(6)$
 $V = 40.8 \text{ mi}^3$

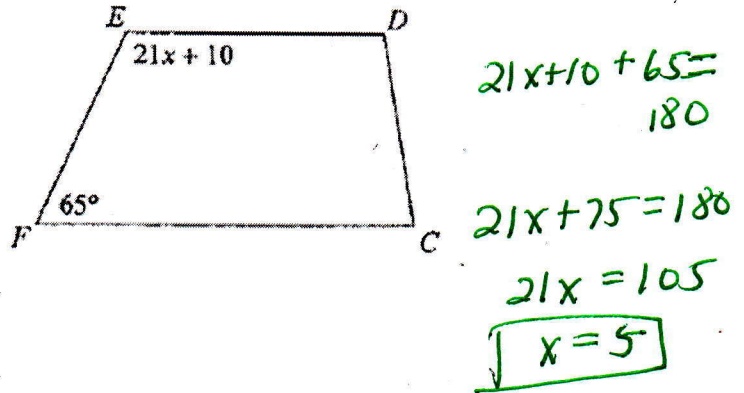
42.  $V = \frac{1}{3}Bh$
 $V = \frac{1}{3}(6)(8)$
 $V = 16 \text{ in}^3$
 $B = \frac{(3)(4)}{2}$
 $= 6$

Solve for x in each trapezoid below.

43.

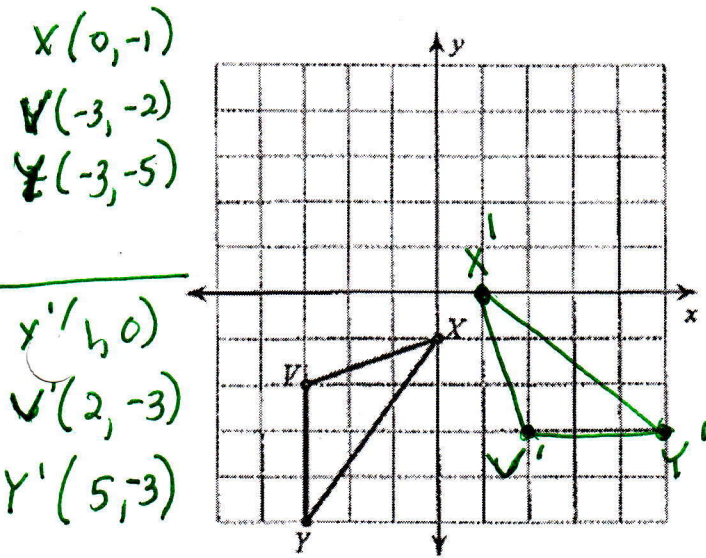


44.

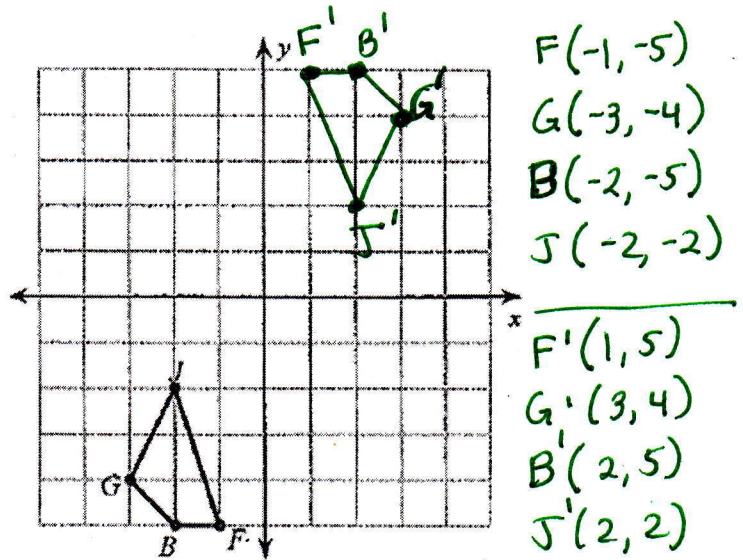


Find the coordinates of the vertices of each figure after the given transformation.

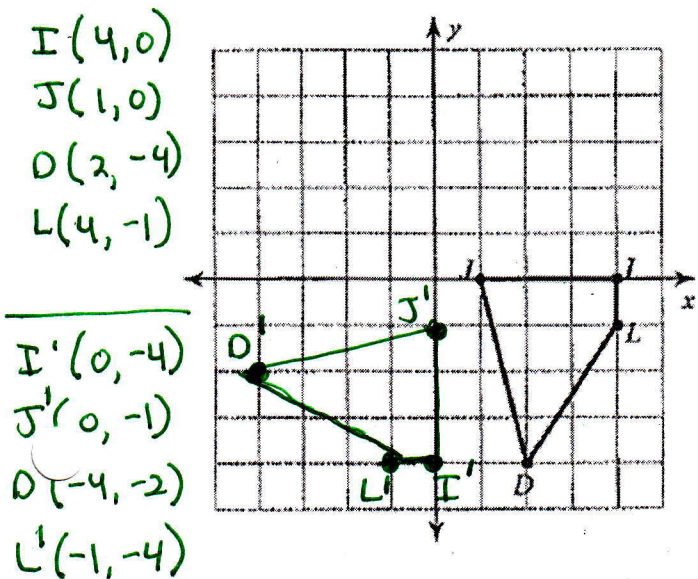
45. rotation 90° counterclockwise



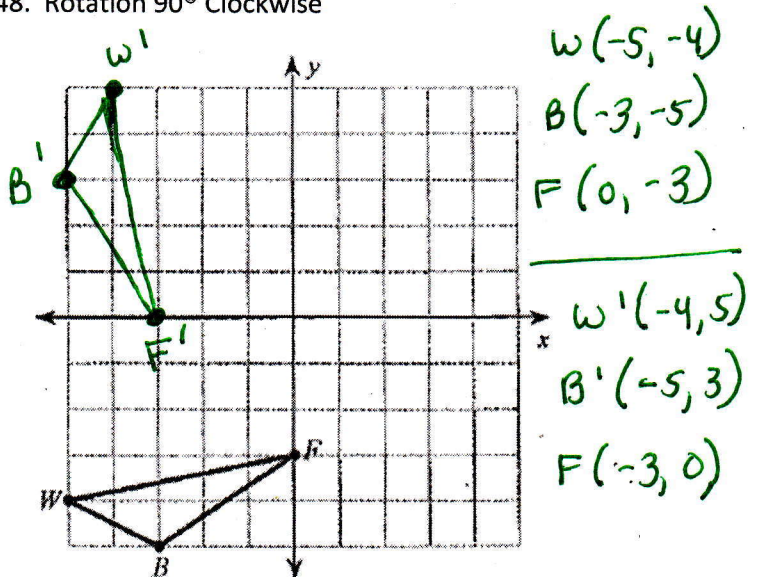
46. rotation 180°



47. Rotation 270° Counterclockwise



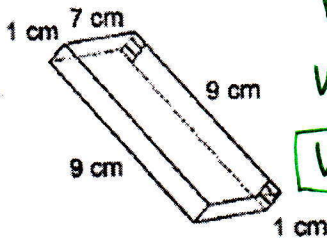
48. Rotation 90° Clockwise



Find the volume of each figure. Round your answers to the nearest hundredth if necessary.

$$B = 9 \cdot 7$$

$$= 63$$

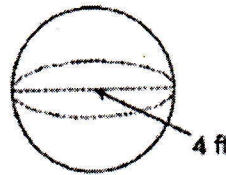


$$V = Bh$$

$$V = 63(1)$$

$$V = 63 \text{ cm}^3$$

49.



50.

$$V = \frac{4}{3} \pi r^3$$

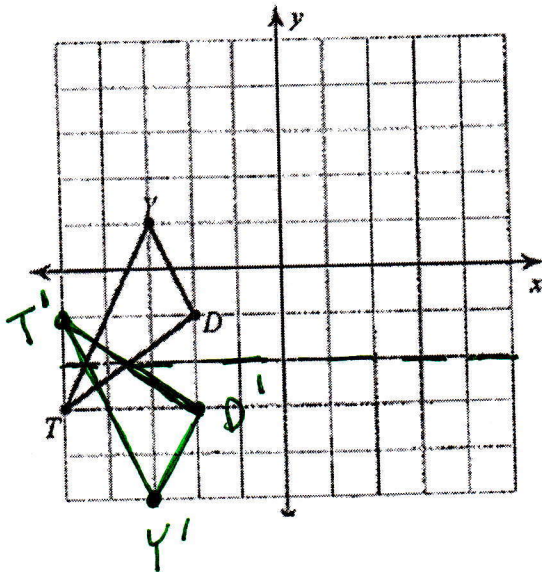
$$V = \frac{4}{3} \pi (4)^3$$

$$V = \frac{32\pi}{3} \text{ ft}^3$$

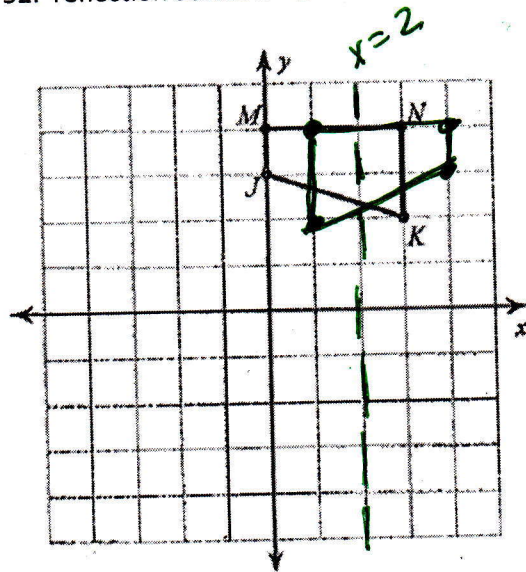
$$\approx 33.51 \text{ ft}^3$$

Find the coordinates of the vertices of each figure after the given transformation.

51. reflection across $y = -2$



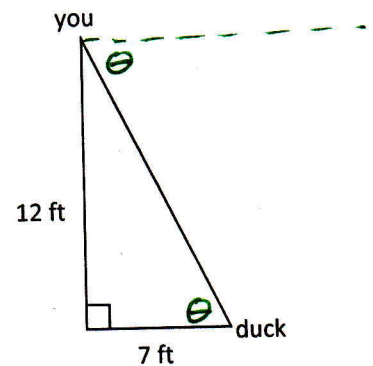
52. reflection across $x = 2$



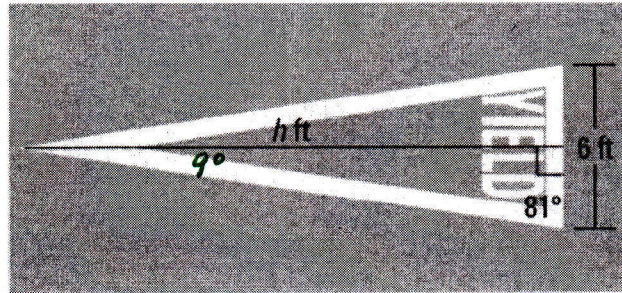
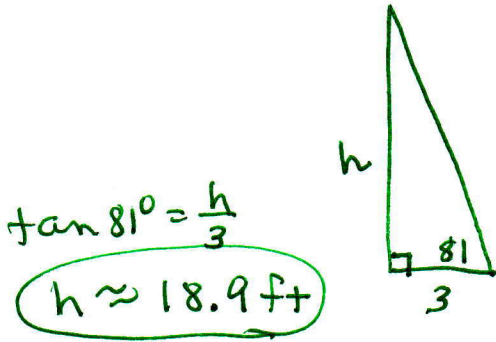
53. You are standing on a footbridge in a city park that is 12 feet high above the pond. You look down and see a duck in the water 7 feet away from the footbridge. What is the angle of depression?

$$\tan \theta = \frac{12}{7}$$

$$\theta \approx 60^\circ$$



54. The specifications for a yield ahead pavement sign are shown. Find the height, h , in feet to the smallest angle of this isosceles triangle.

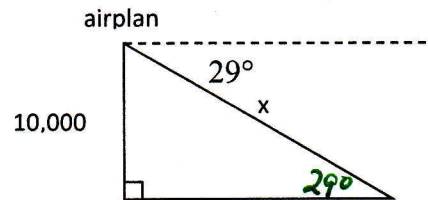


55. A pilot is looking at an airport from her plane. The angle of depression is 29° . If the plane is at an altitude of 10,000 feet, approximately how far is it from the airport?

$$\sin 29^\circ = \frac{10000}{x}$$

$$x = \frac{10000}{\sin 29^\circ}$$

$$x \approx 20627 \text{ feet}$$



56. If the perimeter of an equilateral triangle is 30cm, the height of the triangle would be approximately:



$$5\sqrt{3} \text{ cm}$$

$$V = \pi r^2 h$$

$$C = 2500\pi$$

57. Given a cylinder with radius, r , and height, h , which would cause a greater increase in volume?

$$\text{say } r = 5 \quad h = 10$$

A. Triple the radius. $C = 2250\pi$

B. Quadruple the height. $C = 1000\pi$

C. Double both the radius and the height. $C = 2000\pi$

D. Quadruple the radius and take half the height. $C = 2000\pi$

58. If the length of a side of an equilateral triangle is 8cm, what would the area be?



$$A = \frac{(8)(4\sqrt{3})}{2} = 16\sqrt{3} \text{ cm}^2$$

59. The radius of a spherical beach ball is 24 centimeters. If another spherical beach ball has a radius 3 centimeters longer, about how much greater is its surface area, to the nearest square centimeter?

$$r_1 = 24$$

$$r_2 = 27$$

$$\text{Small } T = 4\pi r^2$$

$$T = 4\pi(24)^2$$

$$T = 2304\pi$$

$$\text{Greater: } 612\pi \text{ cm}^2$$

$$\text{Large } T = 4\pi r^2$$

$$T = 4\pi(27)^2$$

$$T = 2916\pi$$

$$T = 2916\pi$$