Accelerated Review 12: **Pythagorean Theorem/Dim Geo II** Name:

For full credit, show all work. Label all answers.

For all problems involving a formula, show the formula and each step to receive full credit.

Simplify.

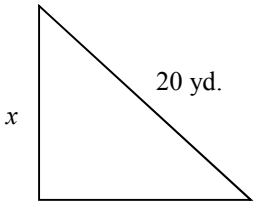
1.	$\sqrt{18}$	$3\sqrt{2}$	2.	$\sqrt{80}$	$4\sqrt{5}$
3.	$\sqrt{600}$	$10\sqrt{6}$	4.	$\sqrt{725}$	$5\sqrt{29}$
5.	$2\sqrt{5}+4\sqrt{5}$	$6\sqrt{5}$			

Write an equation you could use to find the length of the missing side of each right triangle. Then find the missing length. Simplify all radicals. Show all work on a separate sheet of paper. **LABEL!**

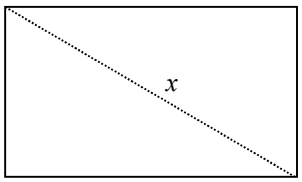
Find the missing side.

6.	$a=15, b=20$	$c=25$	7.	$b=9, c=15$	$a=12$

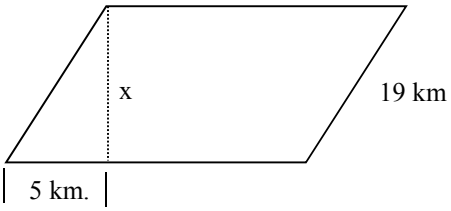
8.



9.

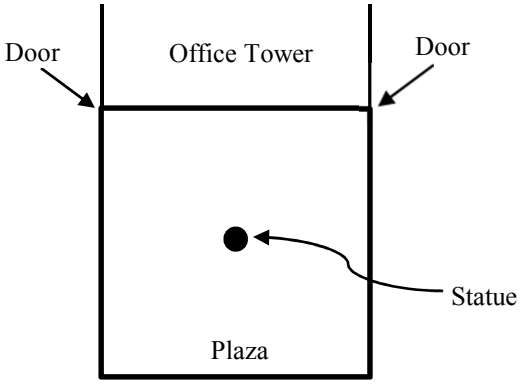


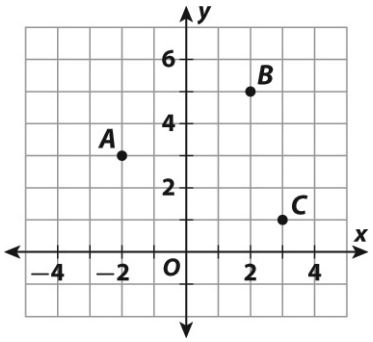
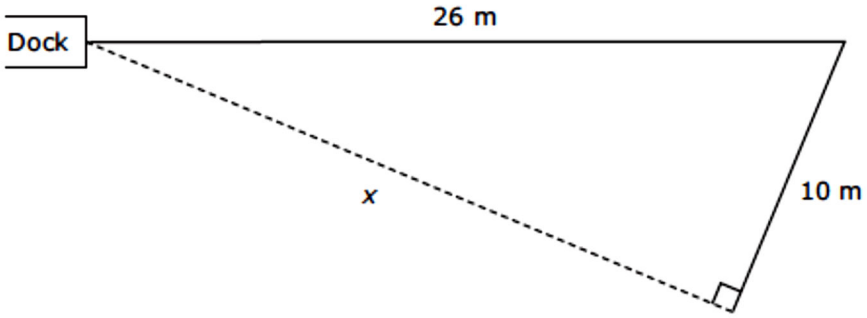
10.



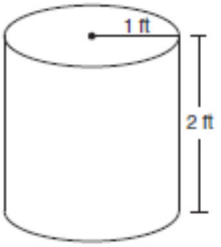
8.	$x=2\sqrt{51}$ yd	9.	$x=13$ ft	10.	$x=4\sqrt{21}$ km

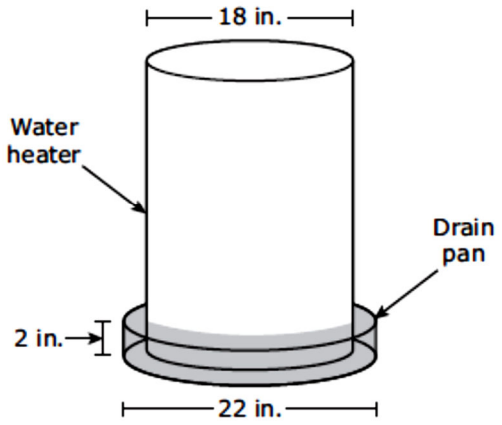
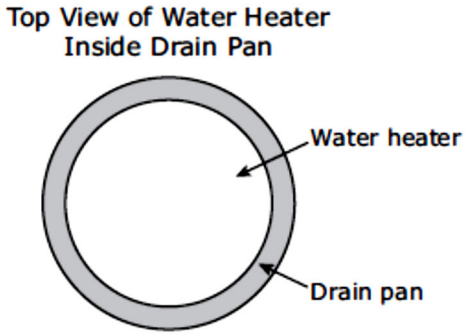
11.	Triangle I: 9 miles, 12 miles, 16 miles Triangle II. 35 inches, 21 inches, 28 inches Which of the triangles above are right triangles? A Neither B Both C I only D II only	D

12.	Find the length of a diagonal of a rectangle that is 6 units long and 12 units wide.	$6\sqrt{5}$ un
13.	The square plaza in front of an office tower has a statue at its center. The doors at the front corners of the office tower are also at the corners of the plaza. If the office tower is 50 meters wide, how far is the statue from each entrance?  	$25\sqrt{2}$ m
14.	Find the distance between points (1,4) and (7,1).	$3\sqrt{5}$ un
15.	Find the distance between points $(-3,-2)$ and $(4,-3)$.	$5\sqrt{2}$ un
16.	Romeo wants to elope with Juliet by climbing a ladder to her bedroom window and stealing her away. The window is 22 feet above ground-level and Romeo has a 28 foot ladder. How far away from the house should Romeo place the ladder so that it exactly reaches the window?	$10\sqrt{3}$ ft
17.	Why is it **not** possible to make a right triangle using lengths of 10 feet, 60 feet, and 65 feet? A $10+60$ is greater than 65. B $65-60$ does not equal 10. C 10^2+60^2 does not equal 65^2. D $(10+60)^2$ does not equal 65^2	C

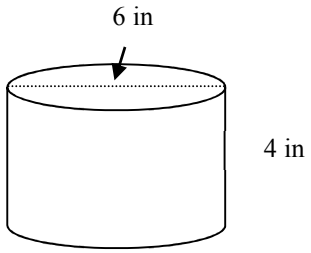
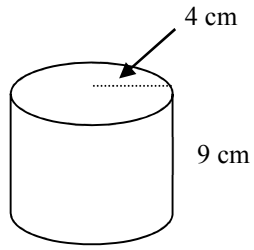
18.	What is the distance between point *A* and point *C*?  A 4 units C 5.4 units B 5.1 units D 25 units	C
19.	What is the distance between the points at (8, 4) and (5, 1)? A $\sqrt{6}$ B $\sqrt{18}$ C $\sqrt{32}$ D $\sqrt{194}$	B
20.	Leland swam from the dock 26 meters. He turned and swam another 10 meters, as shown in the diagram below.  What is the value of *x*, the distance Leland swam to return to the dock? A 36 m B 24 m C 4 m D 16 m	B

You may use a calculator for the rest of this review. Still show all work, except for calculations.

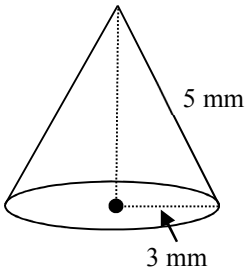
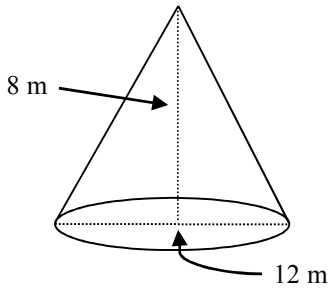
21.	A prism and a pyramid have the same base. The pyramid has a height two times the height of the prism. What is the ratio of the volume of the pyramid to the volume of the prism?	2:3
22.	In the formula for the surface area of a cylinder why is the πr^2 multiplied by 2?	It is multiplied by 2 because there are 2 bases.
23.	You decide to analyze a can of Pringles (cylinder). You note that the diameter is 3 inches. If the volume of the can is 63.585 cubic inches, what is the height of the can?	$h = 9$ in
24.	Charlie made a wooden cone with a radius of 1.9 inches and a height of 15 inches. Which of the following is the best estimate of the volume of this cone? A $60\ in^3$ B $30\ in^3$ C $180\ in^3$ D $90\ in^3$	A
25.	A cylinder is dilated by a scale factor of 1.07 to create a new cylinder. How does the volume of the new cylinder compare with the volume of the original cylinder? A. The volume of the new cylinder is 1.07 times the volume of the original cylinder. B. The volume of the new cylinder is $(1.07)^3$ times the volume of the original cylinder. C. The volume of the new cylinder is $(1.07)^2$ times the volume of the original cylinder. D. The volume of the new cylinder is $(2.14)^2$ times the volume of the original cylinder.	B
26.	For storage Mrs. Lin uses cylindrical containers like the one shown below. If Mrs. Lin uses 2 of these containers, which is closest to the total volume of both containers?  A 13 cubic feet C 6 cubic feet B 8 cubic feet D 16 cubic feet	A

27.	A water heater has a diameter of 18 inches. It sits in a drain pan that has a diameter of 22 inches and a height of 2 inches, as modeled in the diagram below.   Water that leaks out of the water heater sits in the drain pan. Which of the following is closest to the maximum amount of water that the drain pan can contain with the water heater in the position shown? A $13\ in^3$ B $1005\ in^3$ C $251\ in^3$ D $50\ in^3$	C

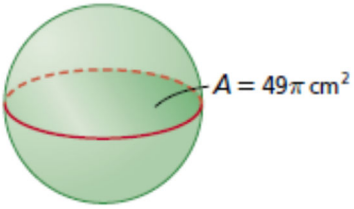
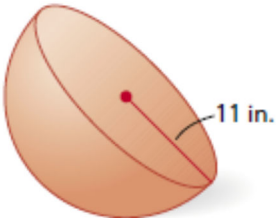
For the problems below find the **volume, lateral surface area, and the total surface area**.

28. 29. 30.	 	31. 32. 33.	
Volume: $V = 113.04\ in^3$		Volume: $V = 452.16\ cm^3$	
Lateral Surface Area: $LSA = 75.36\ in^2$		Lateral Surface Area: $LSA = 226.08\ cm^2$	
Total Surface Area: $TSA = 131.88\ in^2$		Total Surface Area: $TSA = 326.56\ cm^2$	

For the problems below find the **volume.**

34.		35.	
Volume: $V = 37.68 \text{ mm}^3$		Volume: $V = 301.44 \text{ in}^3$	

For the problems below find the **volume**.

36.		37.	
Volume: $V = 1436.02\overline{6} \text{ cm}^3$		Volume: $V = 2786.22\overline{6} \text{ in}^3$	

38. 39.	Mr. Mangham purchased 5 exercise balls for his classroom. Three of the balls were 65cm diameter and two of the balls were 55cm diameter. What is the total volume of the 65cm exercise balls? (nearest whole number) What is the total volume of the 55cm exercise balls? (nearest whole number)	65cm $431{,}161 \text{ cm}^3$ 55cm $174{,}139 \text{ cm}^3$
40.	Cookie Monster is filling a cylindrical water dispenser that has a radius of 7 inches and a height of 20 inches. Which of these is the best estimate of the volume of this water dispenser? A 140 in.^3 C 840 in.^3 B $2{,}940 \text{ in.}^3$ D $11{,}760 \text{ in.}^3$	B