

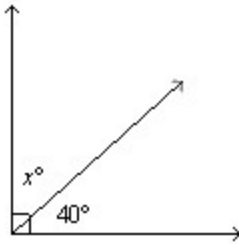
2012-2013 Final Exam Review

Multiple Choice

Indicate the answer choice that best completes the statement or answers the question.

Find the value of x in each figure.

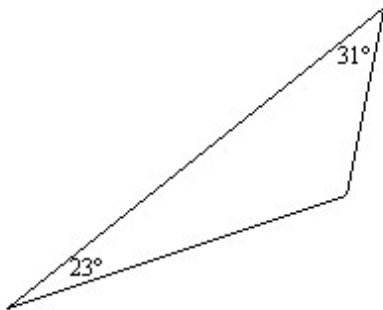
___ 1.



- a. 50
- b. 140
- c. 40
- d. 60

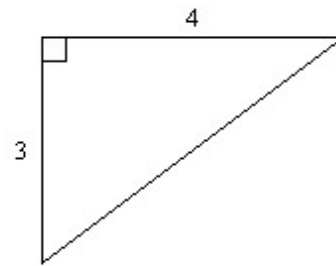
Classify each triangle by its angles and by its sides.

___ 2.



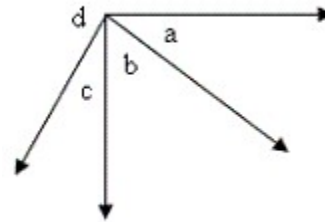
- a. acute, scalene
- b. obtuse, scalene
- c. obtuse, isosceles
- d. right, scalene

___ 3.



- a. obtuse, scalene
- b. right, scalene
- c. right, isosceles
- d. right, equilateral

___ 4. Which of the following statements is true?



- a. $\angle b$ and $\angle d$ are supplementary
- b. $\angle a$ and $\angle b$ are complementary
- c. $\angle b$ and $\angle d$ are complementary
- d. $\angle a$ and $\angle b$ are supplementary

2012-2013 Final Exam Review

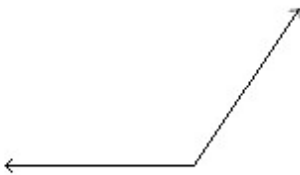
Classify each angle as acute, obtuse, right, or straight.

___ 5.



- a. right
- b. straight
- c. obtuse
- d. acute

___ 6.



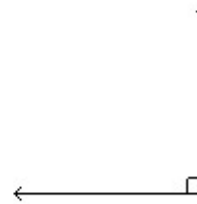
- a. acute
- b. right
- c. straight
- d. obtuse

___ 7.



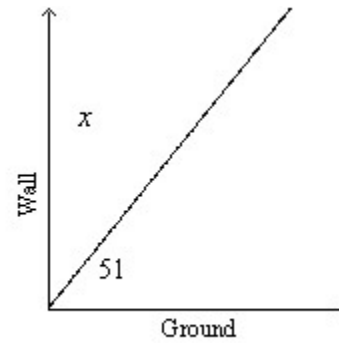
- a. straight
- b. right
- c. obtuse
- d. acute

___ 8.



- a. right
- b. acute
- c. straight
- d. obtuse

___ 9. A beam makes an angle 51° with the ground. Find the measure of the angle the beam makes with the wall.

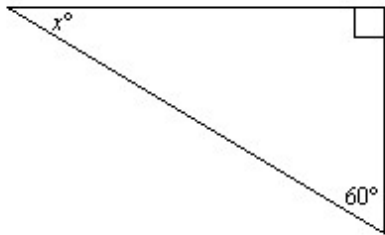


- a. 90°
- b. 39°
- c. 51°
- d. 141°

2012-2013 Final Exam Review

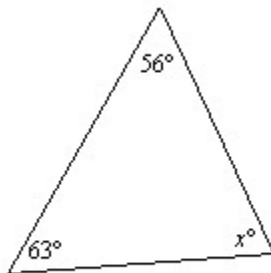
Find the missing measure in each triangle.

___ 10.



- a. 60
- b. 90
- c. 45
- d. 30

___ 11.



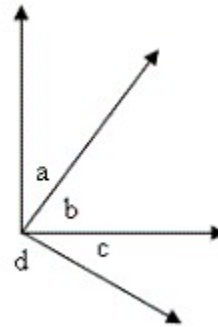
- a. 45
- b. 51
- c. 61
- d. 65

___ 12. Identify the pair of angles as complementary, supplementary, both, or neither.



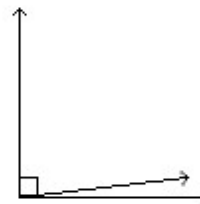
- a. complementary
- b. complementary and supplementary
- c. supplementary
- d. neither

___ 13. Which of the following statements is true?



- a. $\angle b$ and $\angle d$ are complementary
- b. $\angle a$ and $\angle b$ are complementary
- c. $\angle a$ and $\angle b$ are supplementary
- d. $\angle b$ and $\angle d$ are supplementary

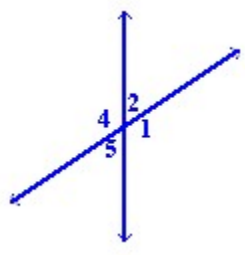
___ 14. Identify the pair of angles as complementary, supplementary, both, or neither.



- a. neither
- b. complementary and supplementary
- c. complementary
- d. supplementary

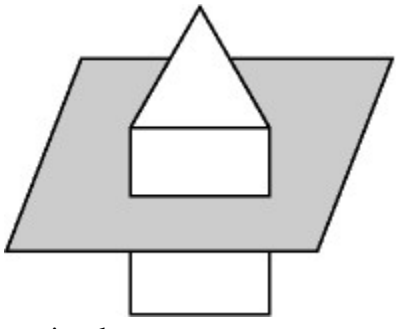
2012-2013 Final Exam Review

___ 15. Which are two pairs of adjacent angles in the figure below?



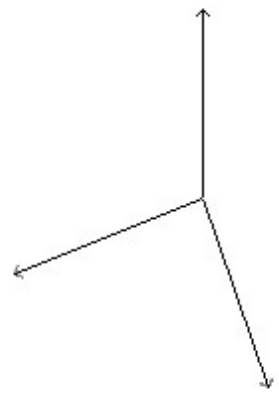
- a. $\angle 1$ and $\angle 4$, $\angle 2$ and $\angle 5$
- b. $\angle 1$ and $\angle 4$, $\angle 1$ and $\angle 2$
- c. $\angle 2$ and $\angle 5$, $\angle 2$ and $\angle 4$
- d. $\angle 4$ and $\angle 5$, $\angle 2$ and $\angle 4$

___ 16. Find the shape resulting from the cross-section of the triangular prism.



- a. triangle
- b. rectangle
- c. square
- d. oval

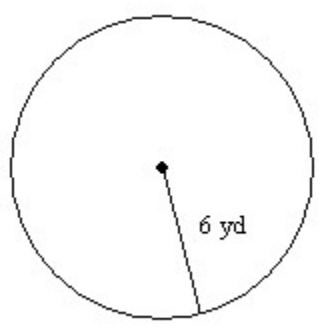
___ 17. Identify the pair of angles as complementary, supplementary, both, or neither.



- a. supplementary
- b. neither
- c. complementary
- d. complementary and supplementary

Find the circumference of each circle shown or described. Round to the nearest tenth.

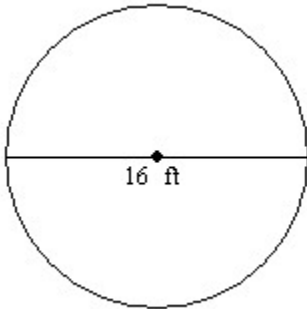
___ 18.



- a. 37.699 yd b. 37.7 yd
- c. 113.1 yd² d. 18.8 yd

2012-2013 Final Exam Review

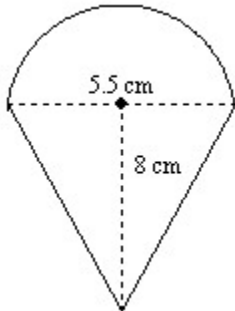
___ 19.



- a. 201.1 ft^2 b. 25.1 ft
 c. 50.3 ft d. 50.265 ft

Find the area of each figure. Round to the nearest tenth if necessary.

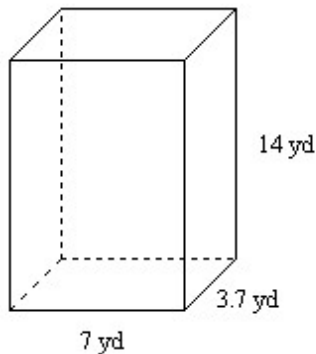
___ 20.



- a. 45.8 cm^2 b. 33.9 cm^2
 c. 27.1 cm^2 d. 55.9 cm^2

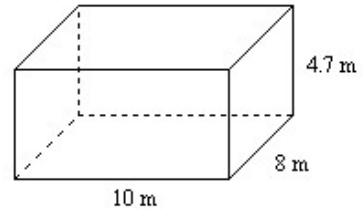
Find the volume of each rectangular prism. Round to the nearest tenth if necessary.

___ 21.



- a. 24.7 yd^3 b. 362.6 yd^3
 c. 181.3 yd^3 d. 686 yd^3

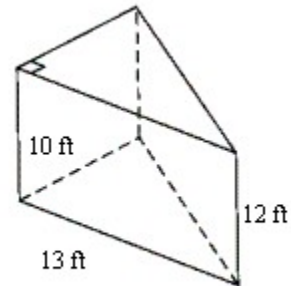
___ 22.



- a. 376 m^3 b. 188 m^3
 c. 22.7 m^3 d. 470 m^3

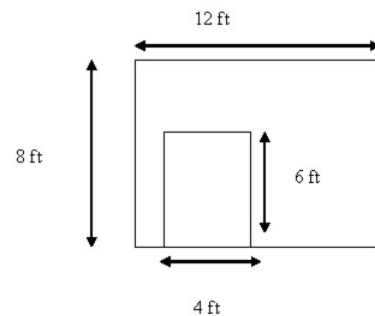
Find the volume of each triangular prism. If necessary, round to the nearest tenth.

___ 23.



- a. 780 ft^3 b. 65 ft^3
 c. 1560 ft^3 d. 780 ft^2

___ 24. Cedrick is putting metallic wallpaper on one wall of his bedroom. If one roll of wallpaper holds 25 square feet of wallpaper, what is the minimum number of rolls that will he need?

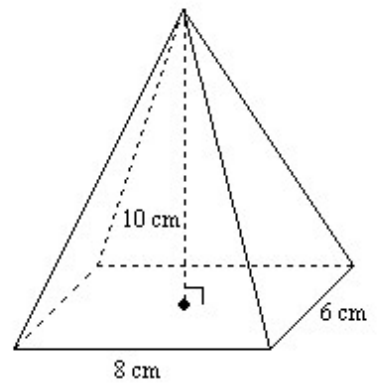


- a. 6 b. 5
 c. 4 d. 3

2012-2013 Final Exam Review

Find the volume of each pyramid. Round to the nearest tenth if necessary.

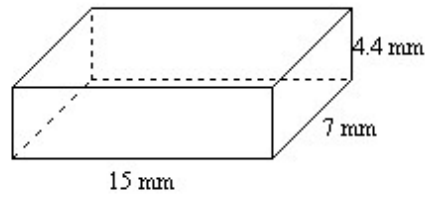
___ 25.



- a. 128 cm^3
- b. 116 cm^3
- c. 160 cm^3
- d. 480 cm^3

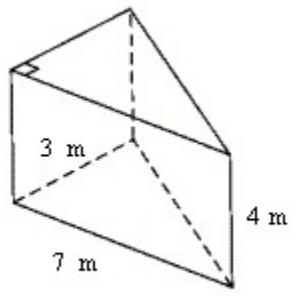
Find the surface area of each prism. Round to the nearest tenth if necessary.

___ 26.



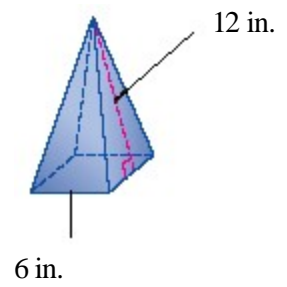
- a. 201.8 mm^2
- b. 105.6 mm^2
- c. 403.6 mm^2
- d. 484 mm^2

___ 27.



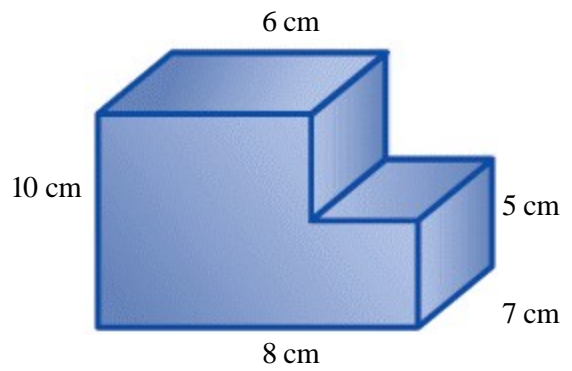
- a. 91.5 m^2
- b. 10.5 m^2
- c. 42 m^2
- d. 91.5 m^3

___ 28. Find the total surface area of the square pyramid below. Round to the nearest tenth if necessary.



- a. 180 in^2
- b. 36 in^2
- c. 144 in^2
- d. 24 in^2

___ 29. Find the volume of the Carlo's building block.



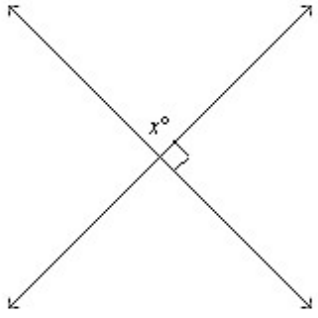
- a. 280 cm^3
- b. 490 cm^3
- c. 70 cm^3
- d. 700 cm^3

2012-2013 Final Exam Review

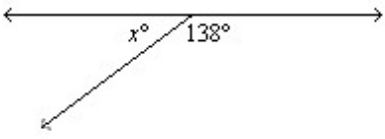
Subjective Short Answer

Find the value of x in each figure.

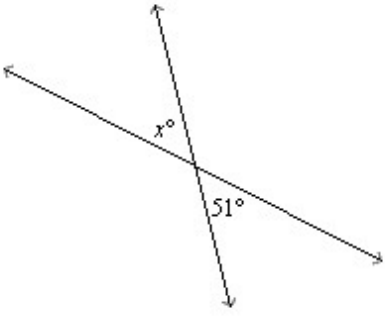
30.



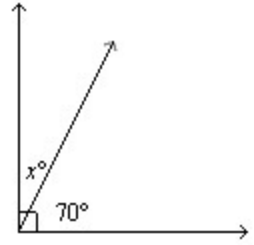
31.



32.

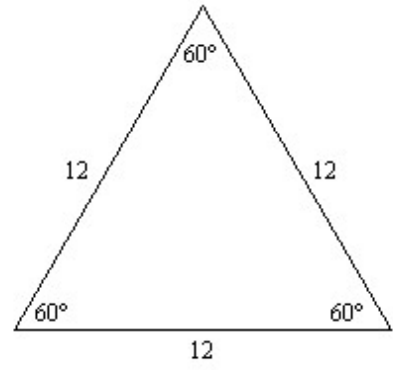


33.

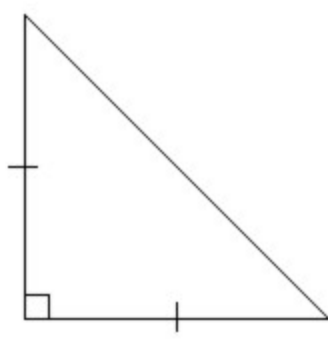


Classify each triangle by its angles and by its sides.

34.

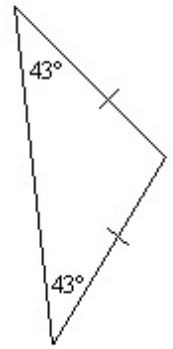


35.

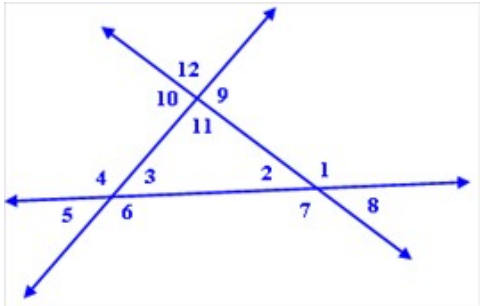


2012-2013 Final Exam Review

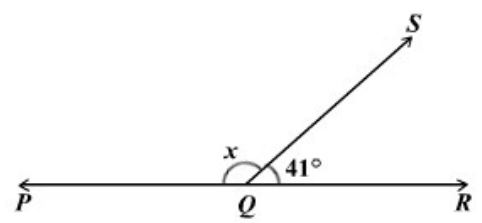
36.



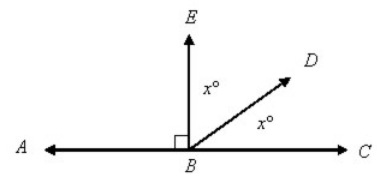
37. Identify all pairs of vertical angles in the figure below.



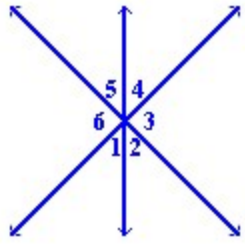
38. In the figure given below, find x .



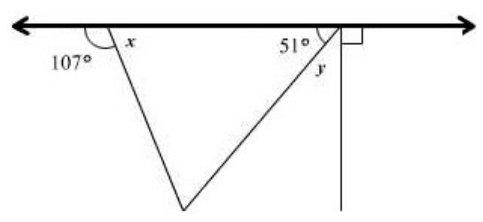
39. If $\angle ABC$ is a straight angle, then find the measures of $\angle ABE$, $\angle EBD$, and $\angle DBC$.



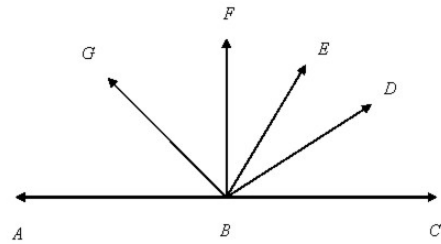
40. Identify all pairs of vertical angles in the figure below.



41. In the figure given below, calculate x and y .

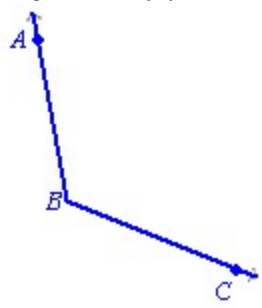


42. Name 2 obtuse angles, 2 acute angles, 1 right angle, and 1 straight angle in the figure below.

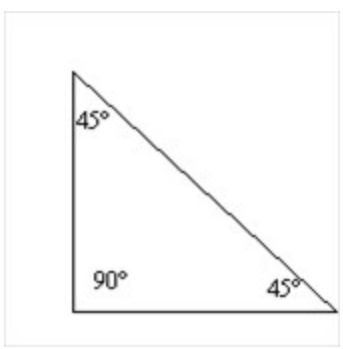
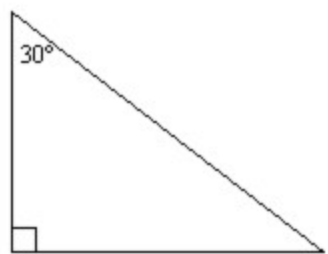


2012-2013 Final Exam Review

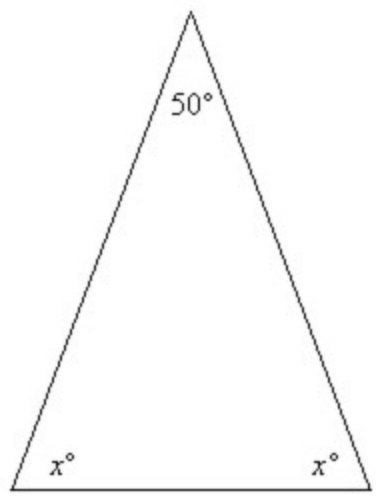
43. Classify $\angle ABC$ as acute, right, obtuse, or straight. Justify your answer.



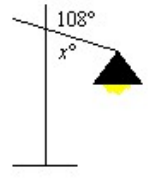
44. Can one angle from each of the triangles be combined to form a supplementary angle? Explain your reasoning.



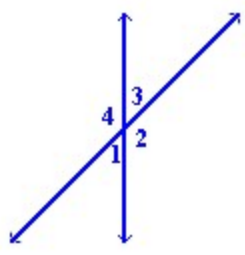
45. Find the missing angle measures.



46. What is the measure of the angle given by the neck of the lamp, x ?

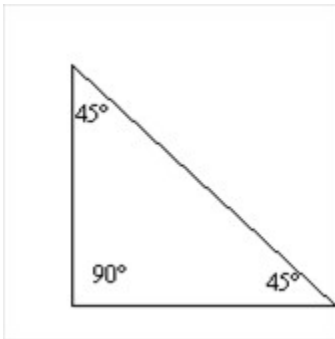
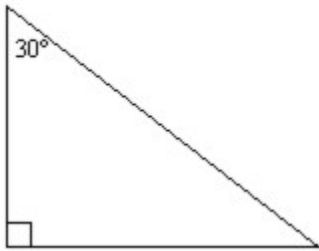


47. Identify acute angles in the figure below.

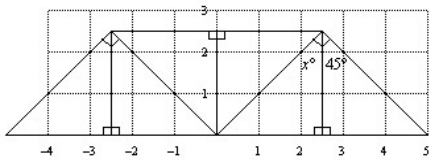


2012-2013 Final Exam Review

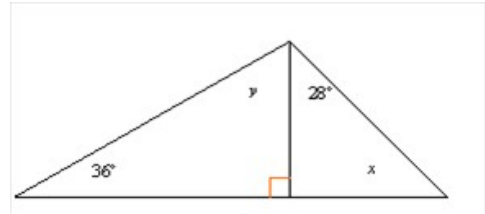
48. Use the triangles below, and combine one angle from each to form a larger angle. How many different acute angles can be drawn? List the measures of the acute angles.



49. The diagram shows a sketch of a roof truss design. Find the value of x .

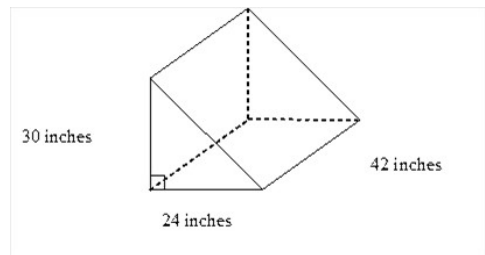


50. Apply what you know about the sum of the measures of the angles of a triangle to find the values of x and y in the figure below. Justify your answer.



51. Which has a greater area, a triangle with a base and height of 75 feet or a circle with a diameter of 75 feet? Justify your selection.

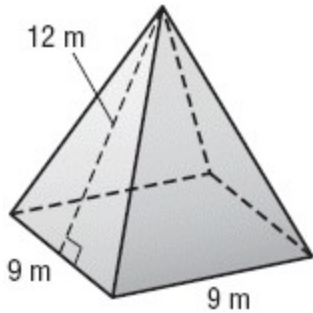
52. A cabinet company makes right triangular prism corner-cabinets that measure 42 inches high. The triangular tops side lengths are 30 inches and 24 inches. A customer buys a corner cabinet that has a volume of $15,500 \text{ in}^3$. Which cabinet has the greater volume?



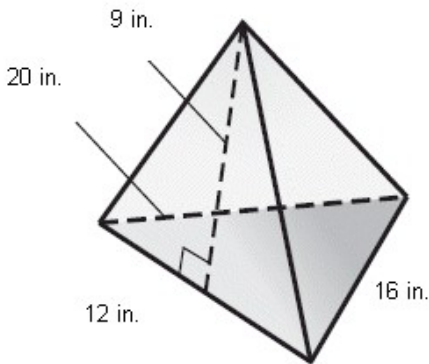
53. A pyramid-shaped paperweight has a square base with sides of length 4 cm and its height is 6 cm. Calculate the volume of the paperweight.

2012-2013 Final Exam Review

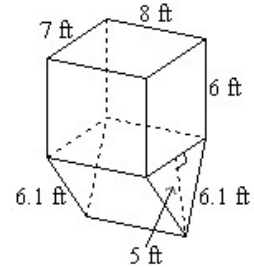
54. The local college has a green house that is shaped like a square pyramid, as shown below. The lateral faces of the green house are made of glass. Find the total surface area of the greenhouse.



55. Find the total surface area of the pyramid with a base area of 96 square inches.



56. Find the surface area and volume of the composite figure.



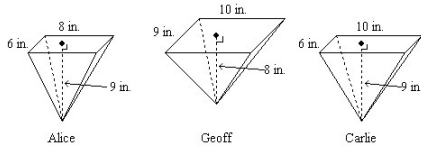
Essay

57. Angles $\angle ABC$ and $\angle CBD$ are adjacent, and $m\angle ABD = 90^\circ$.
- Draw a diagram showing $\angle ABC$, $\angle CBD$, and $\angle ABD$.
Are angles $\angle ABC$ and $\angle CBD$
 - complementary, supplementary, or neither?
Justify your response.
 - Suppose $m\angle ABC = 65^\circ$. What is $m\angle CBD$?

58. The base of a rectangular prism has a length of 8 inches and a width of 11 inches. The base of a triangular prism has a length of 8 inches and a height of 11 inches. Both prisms have a height of 6 inches.
- What is the volume formula for both prisms?
Explain the difference in finding the volume
 - of the rectangular prism and the triangular prism.
Determine which prism has the larger
 - volume and by how much? Justify your selection.

2012-2013 Final Exam Review

59. Alice, Geoff, and Carlie each made a cardboard container for holding sand in the shape of a pyramid.



- a. What is the capacity of Alice's container?
- b. What is the capacity of Geoff's container?
- c. What is the capacity of Carlie's container?
- d. How much more sand can the largest container hold than the smallest container?
