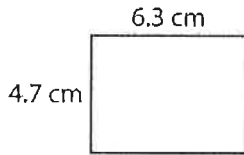


UNIT
4

Geometry

Unit Test: C

1. A student enlarged this rectangle to fill as much as possible of an 8.5 cm × 11 cm piece of paper. What scale was used?

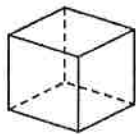


- A 1 : 1.75 C 1 : 4.43
B 1 : 2.34 D 1 : 5.94

2. Rhonda is drawing a 3-inch square inside an isosceles triangle with two side lengths measuring 7 inches and 14 inches. Which of the following is the length of the third side of the triangle?

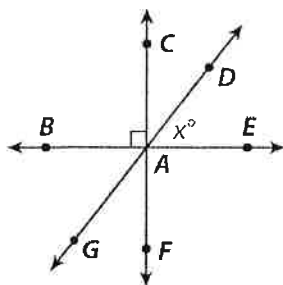
- A 7 in. C 12 in.
B 9 in. D 14 in.

3. The cross section of a cube can be in all of the following shapes EXCEPT:



- A triangle C hexagon
B pentagon D octagon

4. Suppose segment AC is the same length as segment DA, and $m\angle CAD = 71^\circ$. What is the measurement of $\angle DAE$?



- A 38° C 71°
B 52° D 90°

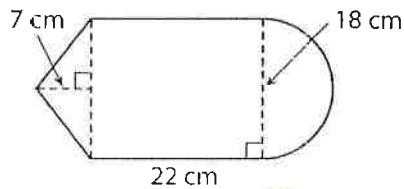
5. A baker is decorating the top of a round cake with cherries. The diameter of the cake is 9.5 inches. Each cherry is 0.75 inches in diameter. About how many cherries will the baker need to decorate the circumference of the top of the cake?

- A 14 C 29
B 19 D 39

6. A contractor is tiling the bottom of a round fishpond with 1-inch square tiles that cost \$0.04 each. The fishpond has a diameter of 120 inches. How much will the contractor spend on tiles?

- A \$30.02 C \$756.09
B \$452.16 D \$1,304

7. The figure below shows the first floor plan of a museum. The plan is drawn to scale with 1 centimeter equal to 0.8 meters. What is the area of the museum's first floor?



- A 153.4 m^2 C 375.1 m^2
B 293.7 m^2 D 468.9 m^2

8. Imani sells shirts packed in boxes that are each 15 in. × 10 in. × 2 in. Imani stacked 3 boxes and wrapped them with one piece of paper. How much paper did she use, not including any overlap?

- A 300 in^2 C 420 in^2
B 340 in^2 D 600 in^2

9. Imani put the wrapped stack of three boxes inside a larger shipping box that is 17 in. × 11 in. × 7 in. What is the difference in volume between the wrapped stack of boxes and the shipping box?

- A 102 in^3 C 900 in^3
B 409 in^3 D $1,309 \text{ in}^3$

Bad Q

UNIT
4

Geometry

10. The greatest distance across the continental United States is a bit less than 5,000 km. To fit a map on an 8.5 in. x 11 in. piece of paper, what scale should you use? Give your answer in metric units. Show why your answer works.

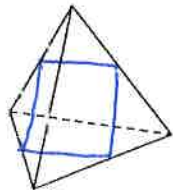
Sample answer

1cm : 180km then 11in = 5029.2 km

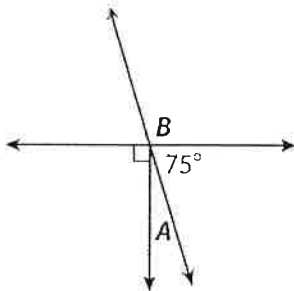
11. A triangle has angles 39° and 47° and an included side length of 1.75 inch. What are the measures of the third angle and the other two sides?

94° ; 1.1in + 1.3in

12. A tetrahedron is shown below. It has four faces and each face is an equilateral triangle. On the figure below, draw a cross section of the tetrahedron that is in the shape of a square.



13. Three roads meet as shown in the diagram below. Local laws prohibit planting trees at corners where roads intersect at angle of less than 20° . Can a tree be planted at angle A? Why or why not?



NO, because $75 + x = 90$
 $x = 15$ and $15 < 20$.

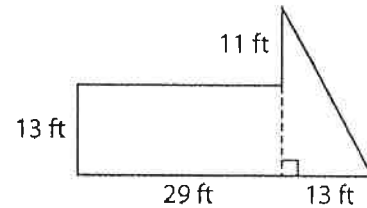
14. Earth's diameter at the equator is 7,926 miles. A jet flies 550 miles per hour. How long would it take a jet to fly halfway around the equator?

22.6 h

15. A pizza is 14 inches in diameter. Each square inch of pizza has 14.04 calories. If each slice contains about 270 calories, how many slices is the pizza cut into?

8 slices

16. A painter designs a mural with the shape shown below. One pint of paint will cover 50 square feet. How many whole pints of paint will the painter need to paint the mural?



11 whole pints of paint

17. A circus tent is in the shape of a triangular prism. The surface area of the tent is $2,896 \text{ ft}^2$, including the floor. The triangular sides of the tent measure 25 feet, 25 feet, and 14 feet. The tent is 40 feet long. What is the height of the tent?

24 ft.

18. The tent has a fan that is suitable for cooling spaces of up to 6,560 cubic feet. Is the fan powerful enough to cool the tent? Explain why or why not.

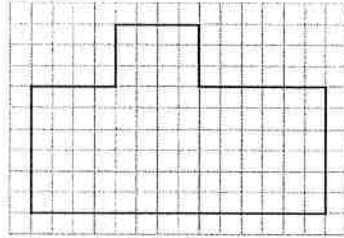
No, the volume of the tent is $6,720 \text{ ft}^3$, so the fan isn't powerful enough to cool the space.

MODULE
8

Modeling Geometric Figures

Module Quiz: B

Use the figure for 1–2.



1. The figure shows a scale drawing of a room, and each square stands for 1 square foot. What is the area of the room in square yards?

A $10\frac{2}{3}$ C 96

B 32 D 126

2. Now let the figure show a scale drawing of a park with the largest dimension equal to 63 meters. What is the scale?

A 1 unit : 3.11 m C 1 unit : 7 m

B 1 unit : 4.5 m D 1 unit : 10.5 m

3. Two sides of a triangle measure 25 cm and 35 cm. Which of the following could be the measure of the third side?

A 3 cm C 8 cm

B 6 cm D 11 cm

4. A triangle has two sides that measure 5 cm and 7 cm. Which of the following CANNOT be the measure of the third side?

A 3 cm C 7 cm

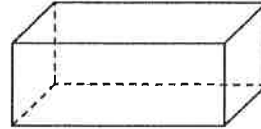
B 5 cm D 12 cm

5. A store sells towels for 25% off the regular price. The regular price of a beach towel is \$24.50. Which expression represents the sale price?

A $0.25x$ C $1.25x$

B $0.75x$ D $1.75x$

6. The right rectangular prism below has a square base.



The following could be the shape of a cross section of the prism EXCEPT:

A rectangle C parallelogram

B circle D square

7. Which of the following can form a cross section?

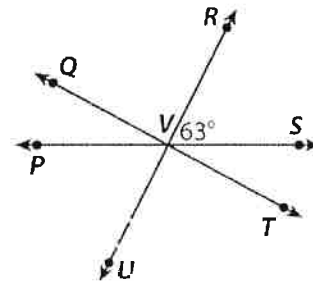
A a point and a triangle

B a plane and a cone

C a circle and a square

D a line and a point

Use the diagram for 8–9.



8. What is the measure of $\angle PVU$?

A 15° C 63°

B 33° D 117°

9. Which describes the relationship between $\angle QVP$ and $\angle FVU$?

A adjacent angles

B complementary angles

C supplementary angles

D vertical angles

10. Joey cut a 10.5-foot length of rope into 6 pieces of equal length. How long was each piece of rope?

A 0.25 ft C 2.5 ft

B 1.75 ft D 6 ft

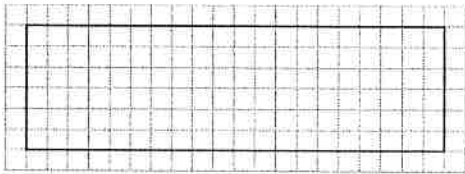
MODULE
8

Modeling Geometric Figures

11. A scale drawing for a rectangular parking lot measures 6.8 cm by 12.3 cm. The scale is 5 cm : 25 m. Find the area of the parking lot.

2,091 m²

12. The scale drawing below is the base of an office building. The scale of the drawing is 1 unit : 6 feet.



Redraw the scale drawing using a scale of 1 unit : 4 yards. Use the grid above.

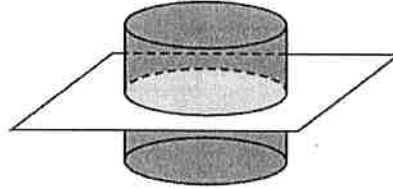
- ~~13.~~ A triangle has angles measuring 30° and 90°. The length of the included side is 6 cm. Tell whether the conditions form a unique triangle, more than one triangle, or no triangle.

- ~~14.~~ In the space below, draw a triangle with angles 40° and 50°, and an included side length of 2 inches.

15. Patricia bought a new swimsuit that cost \$35. Sales tax is 7.5%. How much did Patricia pay, including sales tax?

\$37.63

Use the figure for 16–17.



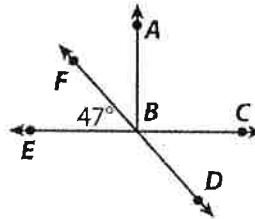
16. Describe the cross section of the cylinder by naming its shape.

Circle

17. Is it possible for the cylinder to have a cross section in the shape of a rectangle? Explain.

yes, if a vertical plane intersects the cylinder, the cross section would be a rectangle

Use the diagram for 18–19.



18. What is the measure of $\angle EBD$?

133°

19. What is the relationship between $\angle ABF$ and $\angle ABD$?

Supplementary Angles

20. Deborah has $6\frac{1}{2}$ pounds of cherries.

She wants to divide them into plastic bags with $\frac{1}{4}$ pound of cherries in each bag. Find the number of plastic bags she will need.

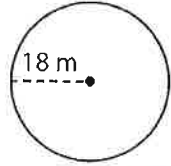
26 bags

MODULE
9

Circumference, Area, and Volume

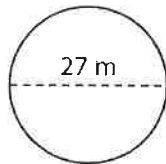
Module Quiz: B

1. What is the circumference of the circle below?



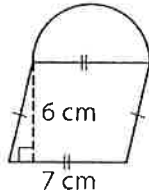
- A 36 m **C** 113 m
B 56.5 m D 324 m

2. What is the area of the circle below?



- A 42.4 m² **C** 572.3 m²
B 84.8 m² D 729.1 m²

3. What is the area of the figure below?

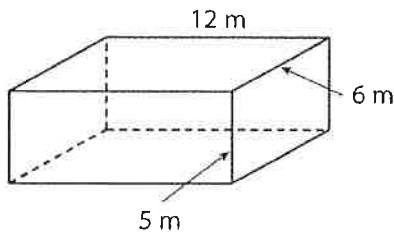


- A 42 cm² C 80.5 cm²
B 61.2 cm² D 118.9 cm²

4. Karen bought 5.5 pounds of bananas for \$0.40 per pound. How much did she pay for the bananas?

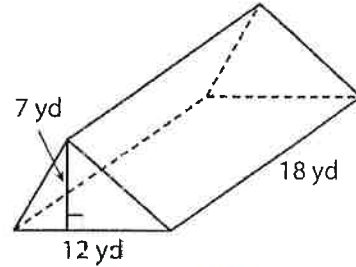
- A** \$2.20 C \$4.50
B \$3.40 D \$5.70

5. What is the surface area of the rectangular prism below?



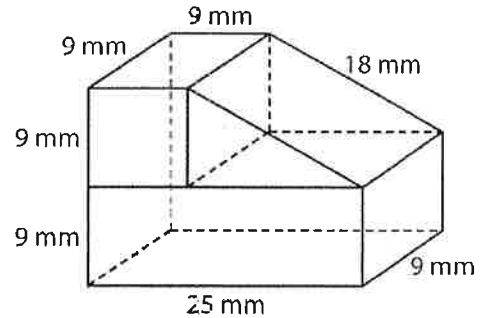
- A 60 m² C 162 m²
B 72 m² **D** 324 m²

6. What is the volume of the triangular prism below?



- A 42 yd³ **C** 756 yd³
B 84 yd³ D 1,512 yd³

Use the figure for 7–8.



7. What is the surface area of the figure above?

- A 785 mm² C 1,692 mm²
B 1,467 mm² D 1,854 mm²

8. What is the volume of the figure above?

- A 929 mm³ C 2,025 mm³
B 1,296 mm³ **D** 3,402 mm³

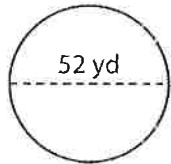
9. Henry joined an art class that charges \$125 for the cost of supplies, plus \$25 per class. Henry wants to spend no more than \$500 on art classes. Which inequality can be solved to find the number of classes Henry can take?

- A** $25x + 125 < 500$
B $125x - 25 > 500$
C $25x \geq 625$
D $125x + 25 \leq 500$

MODULE
9

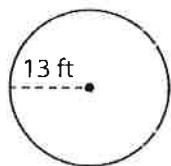
Circumference, Area, and Volume

10. Find the circumference of the circle below.



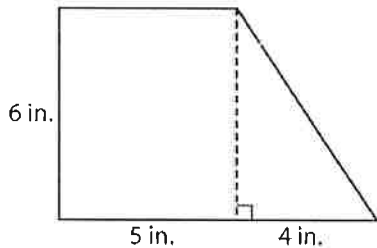
163.28 yd

11. Find the area of the circle below.



530.66 ft.

12. Find the area of the figure below.

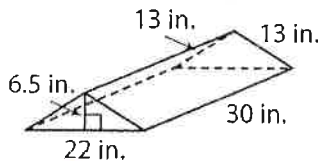


42 in²

13. A half cup of milk has 4 grams of protein. Find the number of grams of protein in $2\frac{1}{4}$ cups of milk.

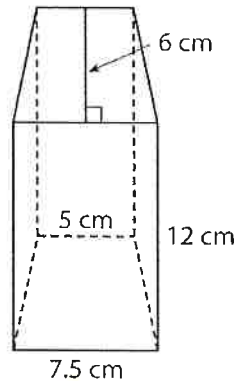
18 g

14. Find the surface area of the triangular prism below.



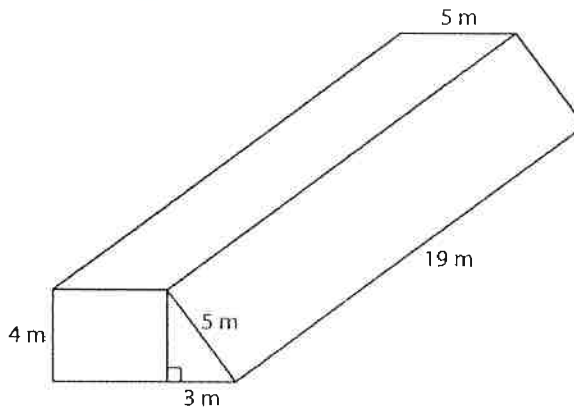
1,583 in³

15. Find the volume of the trapezoidal prism below.



450 cm³

Use the figure for 16–17.



16. Find the surface area of the figure.

470 m²

17. Find the volume of the figure.

494 m³

18. Wendy borrowed a 370-page book from the library. She has already read 20 pages. The book is due back to the library in 7 days. Write an inequality to find the number of pages per day Wendy must read in order to finish the book before it is due.

$7x \geq 370 - 20$