A **STUDY GUIDES** A

Fifth Grade Table of Contents

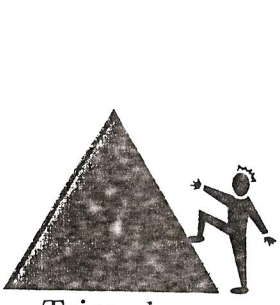
Plane Figures

A **plane figure** lies flat on a flat surface. Most plane figures are polygons.

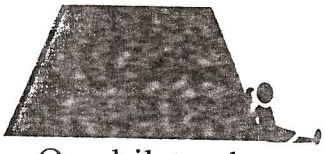
Polygons

A **polygon** is a closed figure whose sides are made up of line segments. You name a polygon by the number of sides it has.

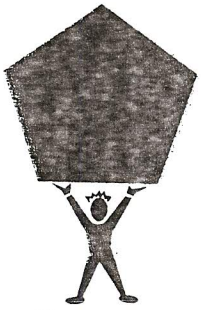
A **regular polygon** has all sides the same length, and all angles the same measure.



Triangle
(3 sides)

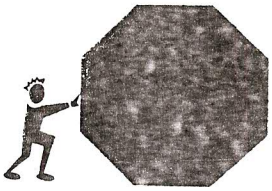


Quadrilateral
(4 sides)



Pentagon
(5 sides)

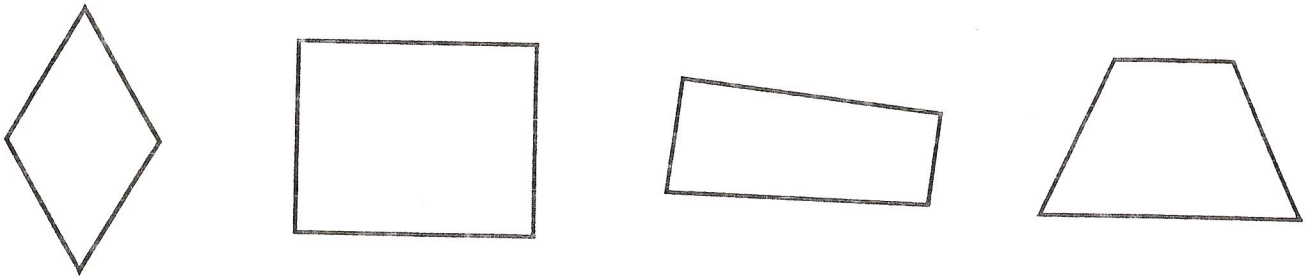
Hexagon
(6 sides)



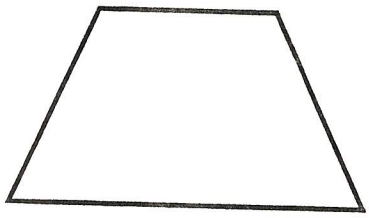
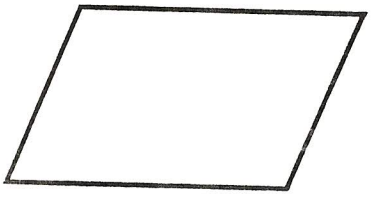
Octagon
(8 sides)

Quadrilaterals

A **quadrilateral** is a polygon with exactly 4 sides.



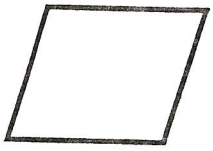
The quadrilaterals you need to be familiar with are **trapezoids** and **parallelograms**.

Trapezoid 	A trapezoid has exactly one pair of parallel sides. *The sides marked in red are parallel.*
Parallelograms 	Parallelograms have two pairs of sides that are the same length and parallel. *The sides marked in red are parallel and equal in length.* *The sides marked in blue are parallel and equal in length.*

Types of Parallelograms

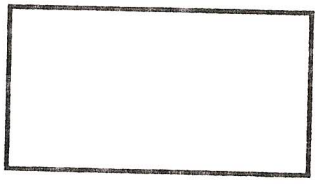
Parallelograms are divided into two types: **rhombi** and **rectangles**.

Rhombus



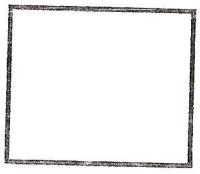
*A rhombus has **all** sides the same length.*

Rectangle



*A rectangle has **4 right angles**.*

Square

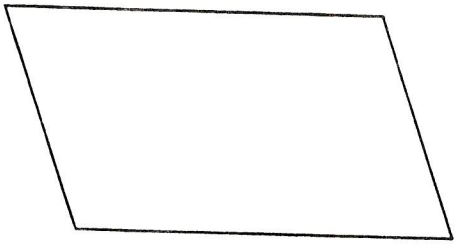


A square is both a rhombus and a rectangle.
It has all equal sides and 4 right angles

1. Identify which one of these shapes is not a parallelogram: a rectangle, a rhombus, a trapezoid, or a square.

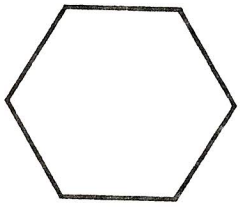
A. rectangle
B. rhombus
C. trapezoid
D. square

2. What is the name of the figure below?



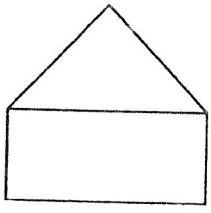
A. rectangle
B. trapezoid
C. parallelogram
D. rhombus

3. What is this shape?



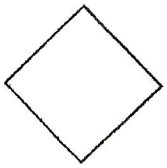
A. a pentagon
B. a hexagon
C. a rectangle
D. two triangles

4. What two shapes make up this figure?



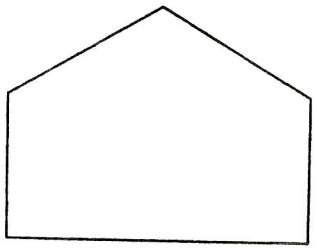
A. triangle and square
B. rectangle and square
C. pentagon and triangle
D. triangle and rectangle

5. What is the best name for the figure below?



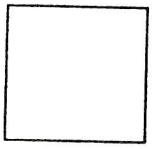
A. square
B. circle
C. rectangle
D. triangle

6. Name the polygon.

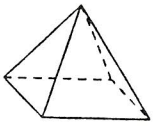


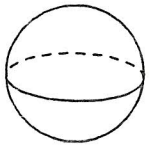
A. triangle
B. square
C. pentagon
D. rectangle

7. Which of the figures below could have this square as its base?



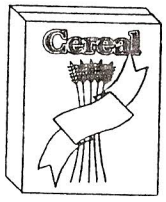
A. 

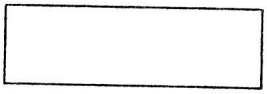
B. 

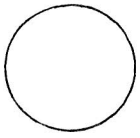
C. 

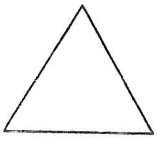
D. 

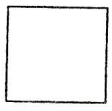
8. Which of the shapes could be the base of the box?



A. 

B. 

C. 

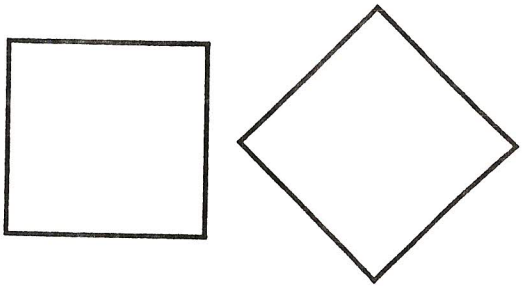
D. 

Congruent, Non-Congruent, and Similar Figures

Examples

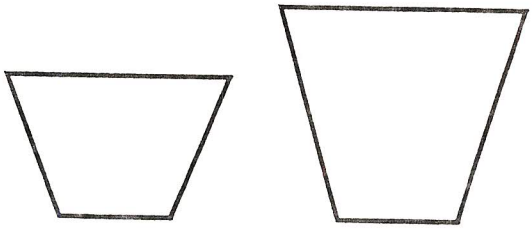
Congruent -- ***Same shape, same size***

Two figures are said to be congruent if they have exactly the same shape and size.



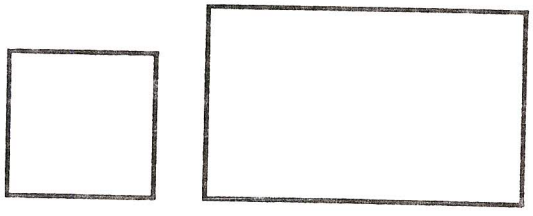
Similar -- ***Same shape, different size***

Two figures are said to be similar if they have exactly the same shape, but not the same size.

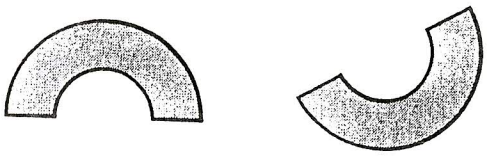


Non-congruent – ***Not the same shape or the same size***

Two figures are said to be non-congruent if they do not have the same shape, or the same size.



Write ***congruent***, ***non-congruent***, or ***similar*** under each set of figures.



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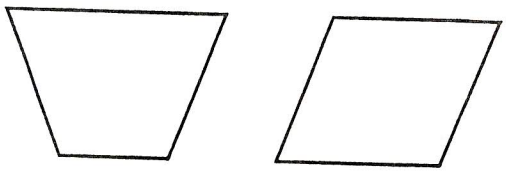

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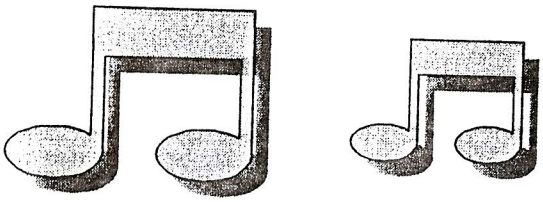

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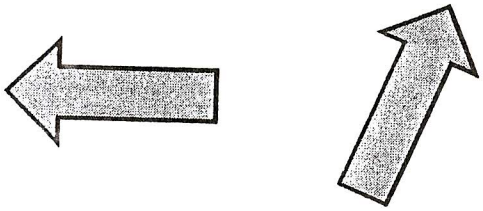

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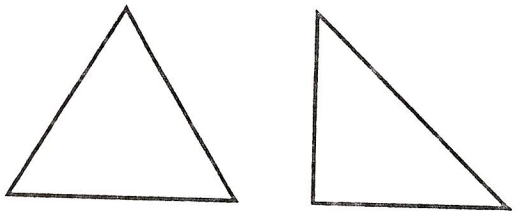

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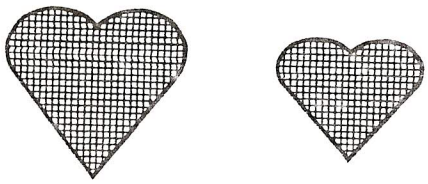

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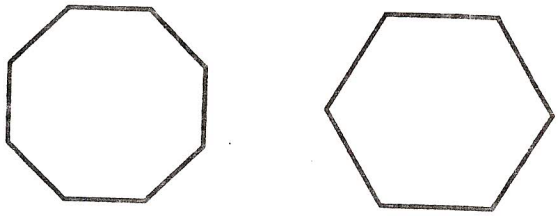

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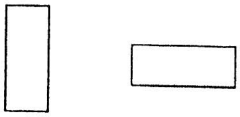
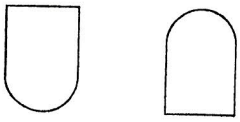
9. Which pair of figures appears to be similar but not congruent?

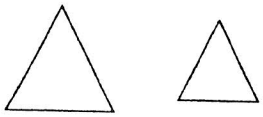
A.



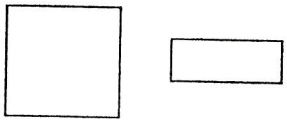
B.



C.



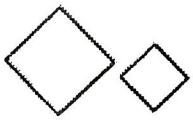
D.



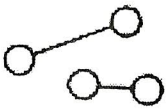
10. Which figures are congruent?

A.

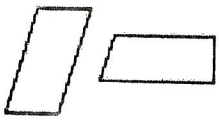
B.



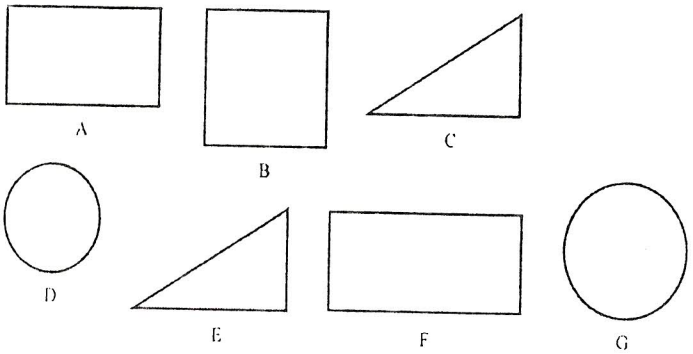
C.



D.



11. Which geometric shapes are congruent?



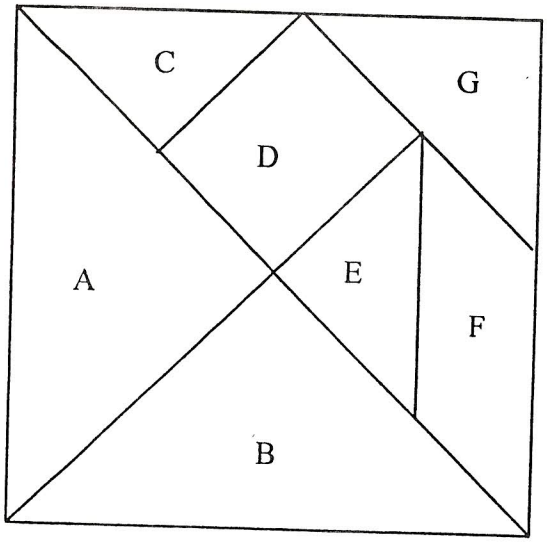
A. figures A, B
B. figures A, F
C. figures C, E
D. figures D, G

12. Which part of the diagram below is congruent to N?

M	N	O	P	Q	R

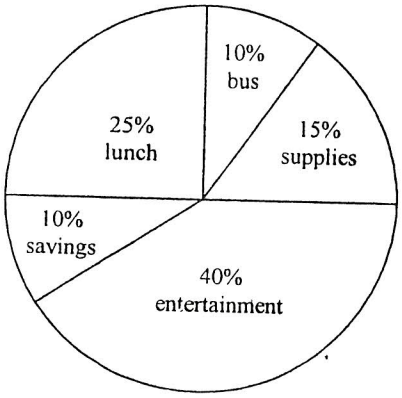
A. M
B. P
C. Q
D. R

13. Which figures appear to be congruent?



A. G and E
B. A and B
C. A and F
D. E and G

14. Miguel gets an allowance of $20.00 a month. Refer to the circle graph below then select the correct response.



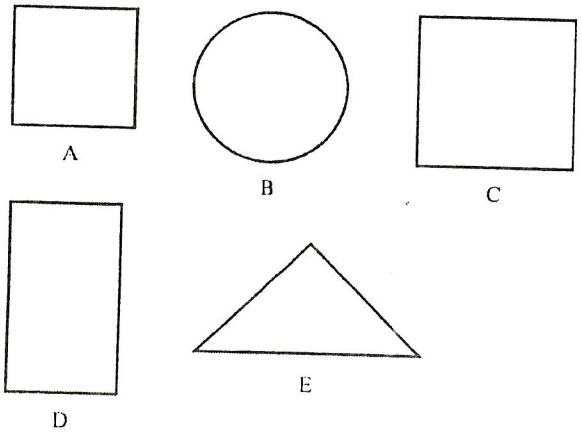
A. Miguel's entertainment budget is congruent to his lunch budget.

B. Miguel's school-supplies budget is congruent to his bus budget.

C. Miguel's savings budget is congruent to his bus budget.

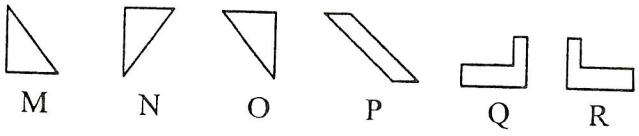
D. Miguel's lunch budget is congruent to the sum of his bus and savings budget.

15. Which geometric shapes are similar?



A. figures A and C
B. figures A and D
C. figures C and D
D. figures E and B

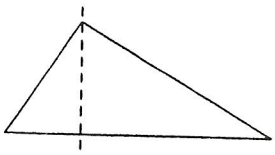
16. If M is congruent to N and M is congruent to O, then _____



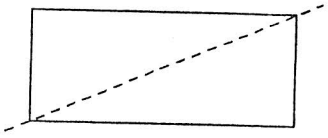
A. N is congruent to O.
B. Q is congruent to R.
C. N is congruent to P.
D. M is congruent to P.

17. Which figure has a line of symmetry?

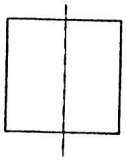
A.



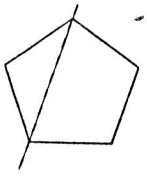
B.



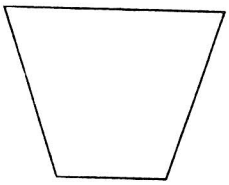
C.



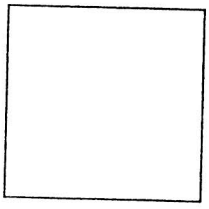
D.



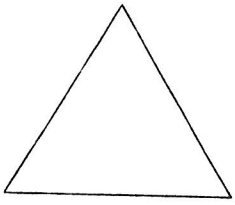
18. Draw the lines of symmetry for each figure below:



Lines of symmetry _____



Lines of symmetry _____



Lines of symmetry _____

19. Which is the best description of the number of lines of symmetry of a circle?

A. A circle has exactly one line of symmetry.

B. A circle has exactly two lines of symmetry.

C. A circle has exactly four lines of symmetry.

D. A circle has many lines of symmetry.

19. Draw two **similar** figures in the space below.

21. A line of symmetry _____

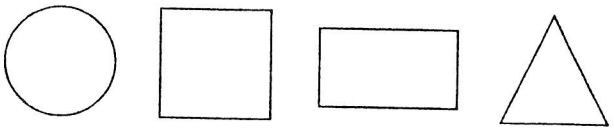
A. shows the parts of the figure that are different.

B. shows how to find the area of a figure.

C. divides a figure so that one part matches the other part.

D. shows how to find the perimeter of a figure.

22. Which of these geometric figures can have only one line of symmetry?



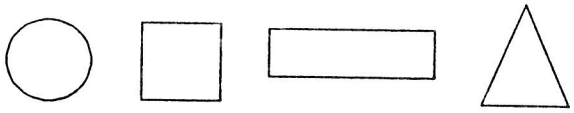
A. circle

B. square

C. rectangle

D. triangle

23. Which geometric figure has four lines of symmetry?



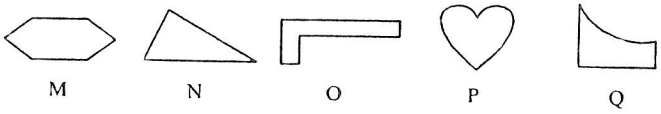
A. circle

B. square

C. rectangle

D. triangle

24. Which two figures are symmetrical?



A. N and Q

B. O and M

C. P and O

D. M and P

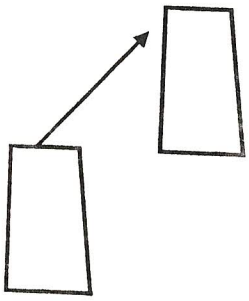
Geometric Transformations

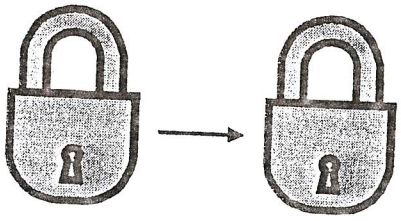
Figures can transform (move or change position). The figure itself does not change, but its position does.

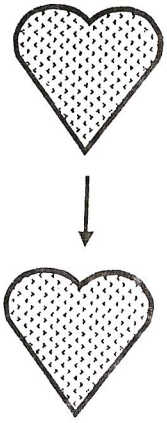
There are three types of transformations you need to know:

Translation *(Slide)*

In a translation, or slide, the figure slides along a straight line – like sliding a book on your desk from one side to another.



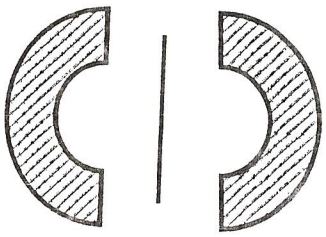




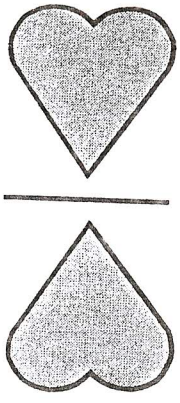
Reflection *(Flip)*

In a reflection, or flip, a figure is "flipped" over a real or imaginary line. The figure can flip vertically or horizontally.

Vertical Flip
The figure flips over a vertical line.



Horizontal Flip
The figure flips over a horizontal line.



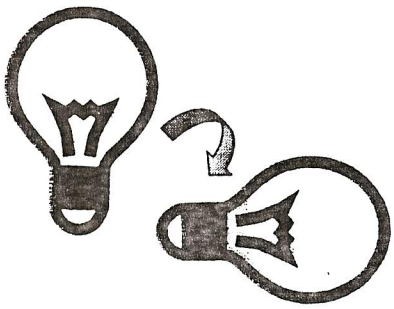
Rotation *(Turn)*

In a rotation, the figure rotates, or turns, around a point.

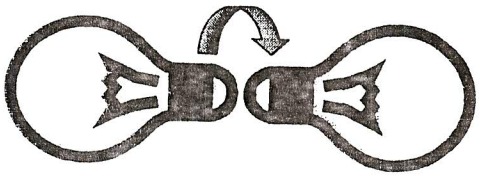
The figure can rotate in two directions: clockwise and counterclockwise.

How far a figure rotates is measured in degrees, usually **90°** (1/4 turn), **180°** (1/2 turn), **270°** (3/4 turn), or **360°** (full turn).

Clockwise rotation

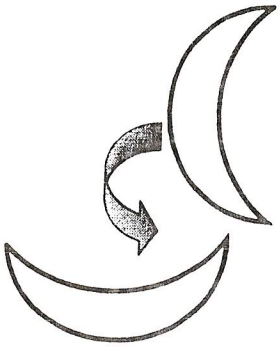


90°
(1/4 turn)

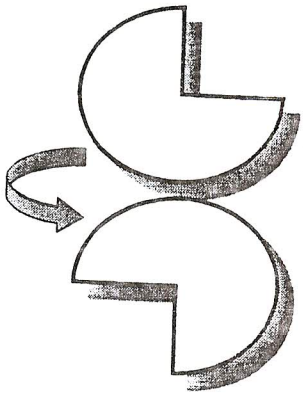


180°
(1/2 turn)

Counterclockwise rotation



90°
(1/4 turn)



180°
(1/2 turn)

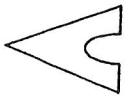
1. Which answer choice shows a reflection of this figure?

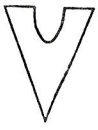
2. How has the dime been moved?

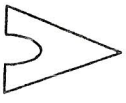
A. by using a reflection
B. by using a translation
C. by using a rotation
D. cannot be determined

3. Look at the figure below.

If the figure is reflected once, how will it look?

A. 

B. 

C. 

D. 

4. Look at the design below.

Which figure shows the design rotated 90 degrees clockwise?

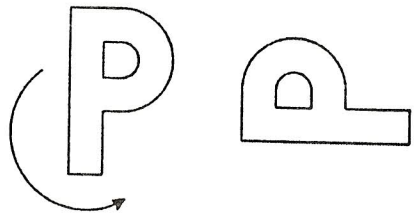
A. 

B. 

C. 

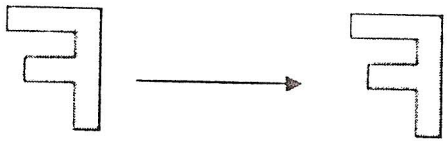
D. 

5. How has the figure been moved?



A. with a reflection
B. with a translation
C. with a rotation
D. cannot be determined

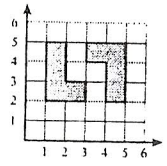
6. How has the figure been moved?



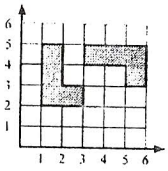
A. using a reflection
B. using a translation
C. using a rotation
D. cannot be determined

7. Which pair of figures shows an example of a translation?

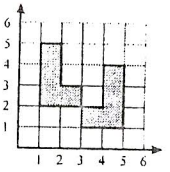
A.



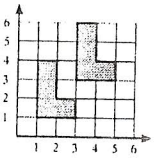
B.



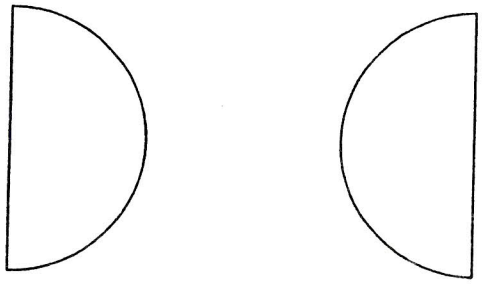
C.



D.



8. Which geometric term is being illustrated below?



A. reflection
B. translation
C. rotation
D. tilt

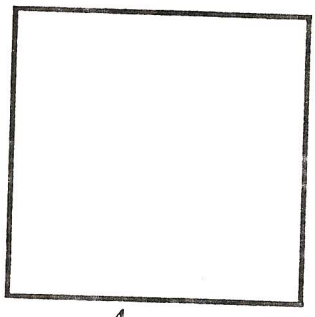
Perimeter

Perimeter is the **distance around** a polygon. To find the perimeter of any polygon, you only need to add the lengths of its sides.

Finding the Perimeter of Squares

Sometimes you are given a diagram, and sometimes you are not. In any case, if you know the length of one side of the square, you can find its perimeter, since **all sides of a square are the same length.**

Problem 1 -- ***Find the perimeter of the square shown below.***



Add all sides.

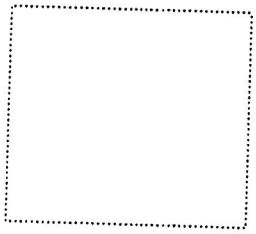
_____ + _____ + _____ + _____ = _____

Perimeter = _____ **cm**

Problem 2 -- ***Find the perimeter of a square with sides 7 cm long.***

Step 1: *Draw the figure as described.*

Step 2: *Add all sides.*



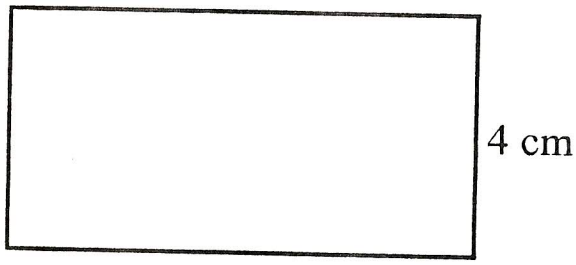
Add all sides.

_____ + _____ + _____ + _____ = _____

Perimeter = _____ **cm**

Finding the Perimeter of Rectangles

Problem 1 -- If you have a diagram, fill in any missing measurements and then add all sides.



Perimeter = _____ cm

Problem 2 -- If you do not have a diagram, draw the figure, fill in the measurements and then add all sides.

Find the perimeter of a rectangle with a length of 6 inches and a width of 2 inches.

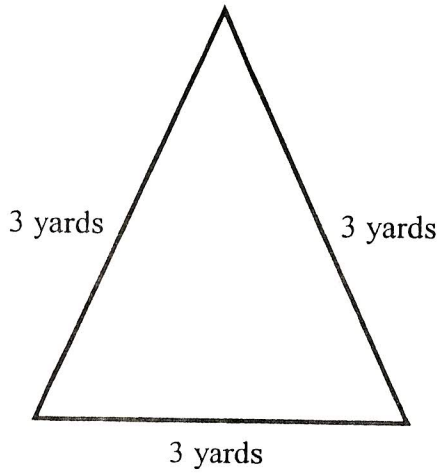
1. Draw the rectangle
2. Fill in measurements.
3. Add all sides together.

Perimeter = _____ cm

Finding the Perimeter of Other Polygons

Example 1:

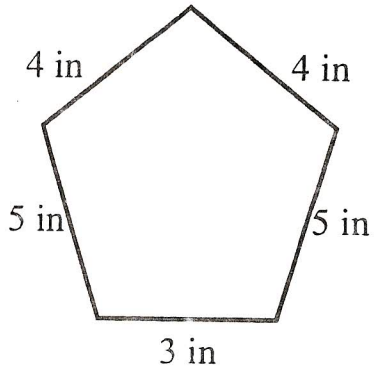
Add the lengths of all sides together.
The sum is the perimeter of the polygon.



Perimeter = _____

Example 2:

Add the lengths of all sides together.
The sum is the perimeter of the polygon.

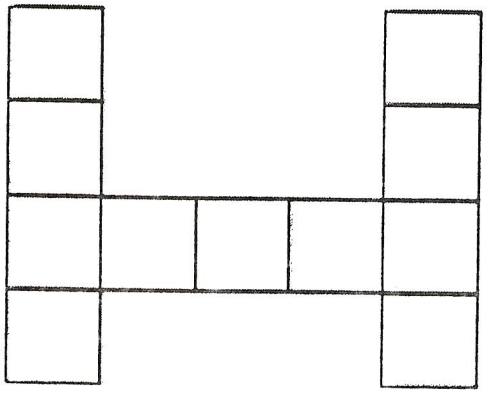


Perimeter = _____

Perimeter of a Shaded Figure

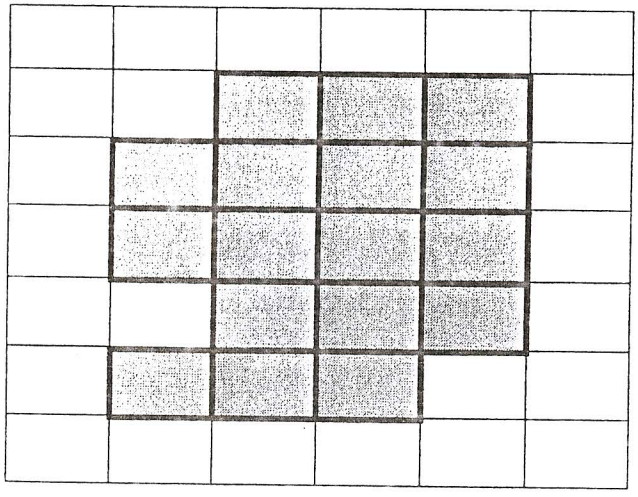
To find the perimeter of a shaded figure, just count each line that makes up the border of the figure. **Making a mark on each line** as you count it will help you keep track of what you have counted.

Example 1: ***Find the perimeter of the shaded figure.***



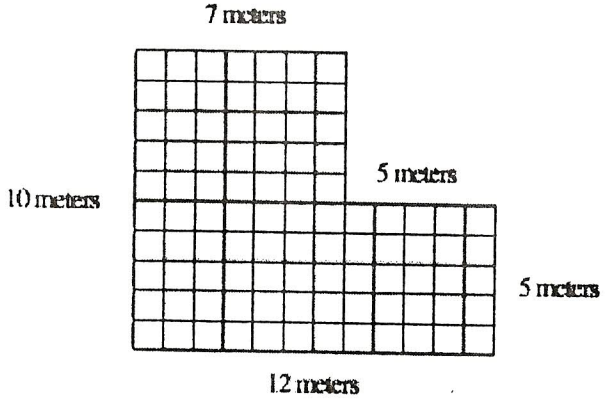
Perimeter = _____

Example 2: ***Find the perimeter of the shaded figure.***



Perimeter = _____

1. Jade has a garden with the following dimensions.



What is the perimeter of Jade's garden?

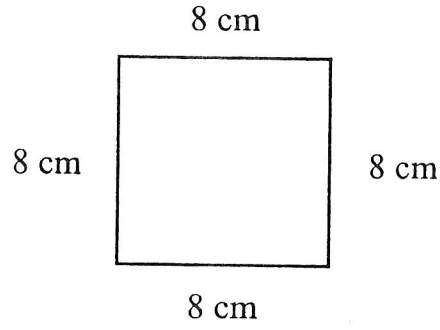
A. 44 meters

B. 70 square meters

C. 142 meters

D. 142 square meters

2. Which of the following is true for the figure shown below?



A. The perimeter is less than 30 cm.

B. The perimeter is between 30 cm and 40 cm.

C. The perimeter is between 40 cm and 50 cm.

D. The perimeter is more than 50 cm.

3. A rectangular football field is 360 feet long and 160 feet wide. Which of the following is closest to the field's perimeter?

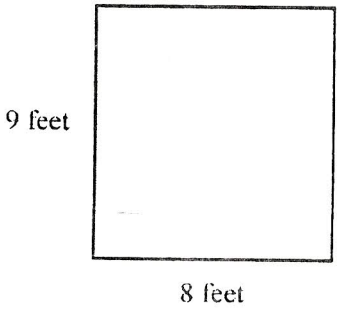
A. 500 feet

B. 650 feet

C. 800 feet

D. 1,000 feet

4. What is the perimeter of the figure?



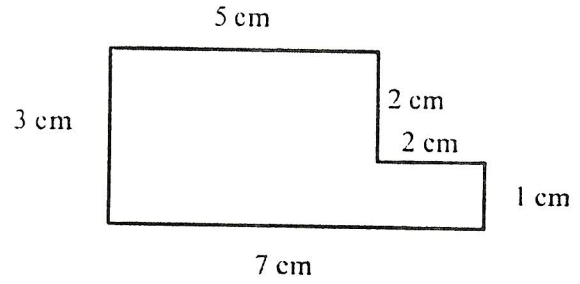
A. 17 feet

B. 34 feet

C. 72 feet

D. 106 feet

5. What is the perimeter of the polygon?



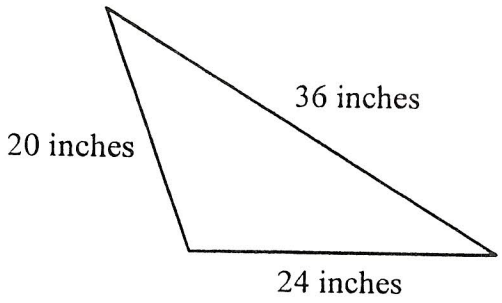
A. 18 cm

B. 17 cm

C. 20 cm

D. 15 cm

6. What is the perimeter of the triangle?



A. 70 inches

B. 76 inches

C. 80 inches

D. 86 inches

7. A square pen is built that is 15.5 meters on each side. How many meters of fencing are needed to enclose the pen?

A. 31.0 m

B. 62.0 m

C. 82.0 m

D. 240.24 m

8. If the length of a rectangle is 45 centimeters and the width is 7 centimeters, what is the perimeter of the rectangle?

A. 52 centimeters

B. 97 centimeters

C. 104 centimeters

D. 315 centimeters

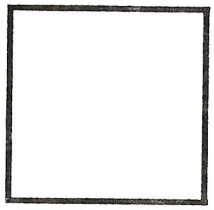
Area of Squares and Rectangles

Area is how much space a figure or shape takes up.
It is always measured in **square units** (units²)

Finding the area of a square:

To find the area of a square, you multiply the length times the width. ($l \times w$)

Use $l \times w$



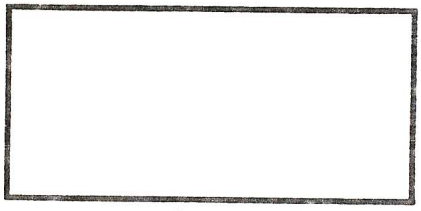
6 cm

_____ × _____
length *width*

Area = _____ *cm²*

Finding the area of a rectangle:

Use $l \times w$



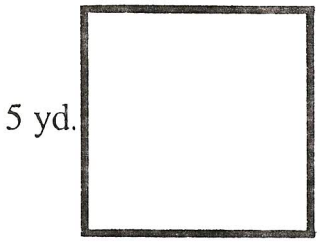
3 m

5 m

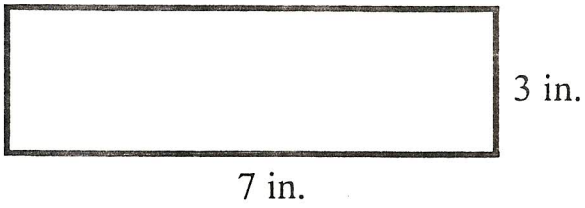
_____ × _____
length *width*

Area = _____ *m²*

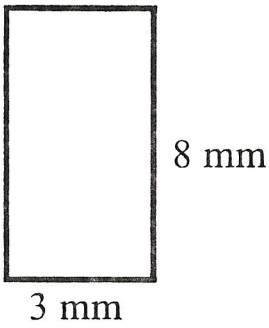
Find the area of each figure. Remember to use square units.



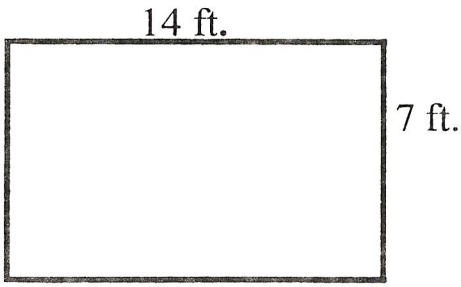
Area = _____



Area = _____



Area = _____



Area = _____

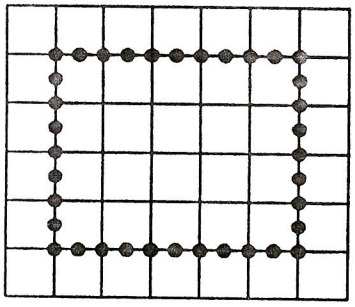
A square has a side that measures 12 inches. What is its area?

Area = _____

A rectangle has a length of 9 mm and a width of 4 mm. What is the area of this rectangle?

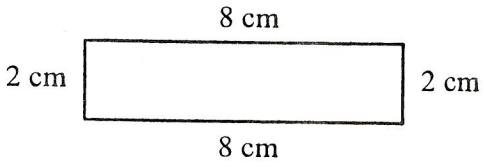
Area = _____

7. What is the area inside the dotted line?



A. 20 square units
B. 25 square units
C. 30 square units
D. 50 square units

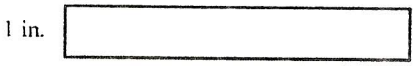
8. What is the area of the rectangle?



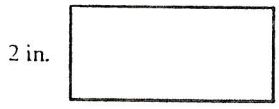
A. 16 square cm
B. 20 square cm
C. 64 square cm
D. 256 square cm

9. Which figure has a perimeter that is smaller than its area?

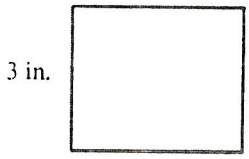
A.



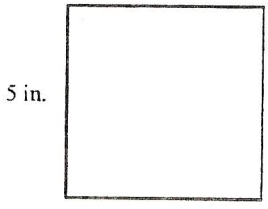
B.



C.



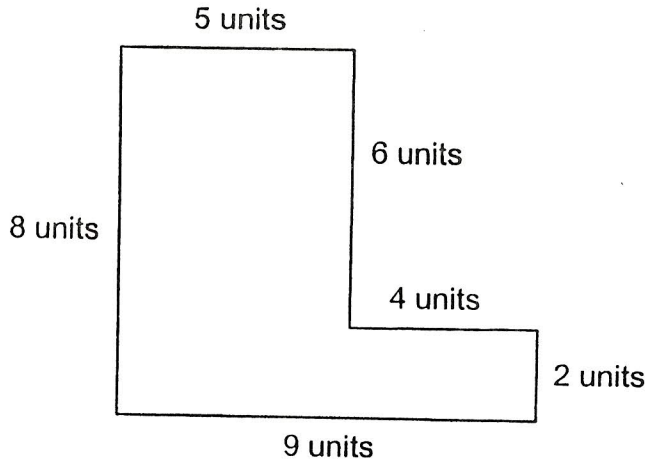
D.



10. The area of a square is 25 square feet. What is the square's perimeter?

A. 5 feet
B. 10 feet
C. 20 feet
D. 25 feet

11. Find the area of the figure below.



A. 30 square units
B. 33 square units
C. 48 square units
D. 58 square units

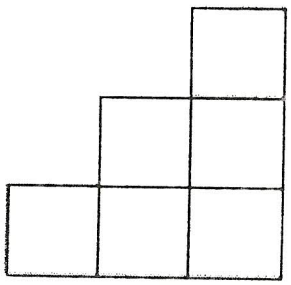
12. Riverside School has new trays for its lunchroom. The old trays were 12 inches wide and 18 inches long. If the new trays are 14 inches wide and 18 inches long, the area of the new trays will _____

A. be twice as great.
B. be a little greater.
C. be the same.
D. be a little less

13. The area of a square is 16 square inches. Which measurement could be the perimeter of the same square?

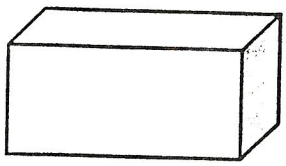
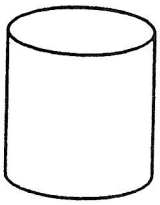
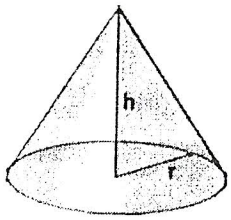
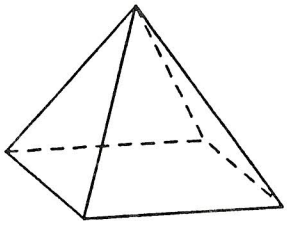
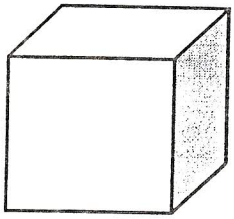
A. 64 inches
B. 32 inches
C. 16 inches
D. 8 inches

14. What is the area of the figure below if each square is one square unit?



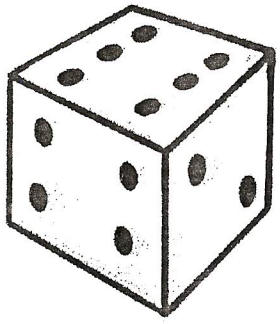
A. 5 feet
B. 6 square units
C. 7 square units
D. 8 square units

Solid Figures

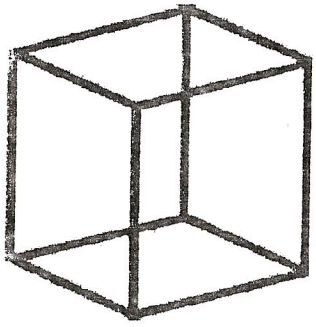
Rectangular Prism		_____ rectangular faces _____ vertices _____ edges
Cylinder		_____ circular faces _____ vertices _____ curved edges
Cone		_____ circular face _____ vertices _____ curved edge
Square Pyramid		_____ square face _____ triangular faces _____ edges _____ vertices
Cube		_____ square faces _____ edges _____ vertices

Parts of Solid Figures

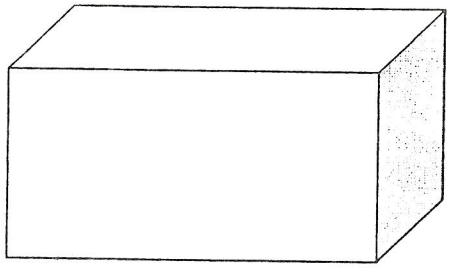
Face -- A flat surface of a solid figure



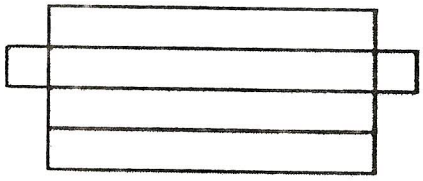
Edge – The line segment where two faces of a solid figure meet.



Vertex – The corner points of a solid figure.

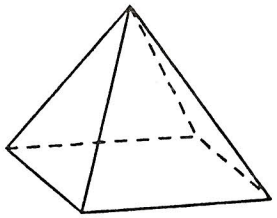


1) What figure will the pattern below form when it is folded?



A. rectangular prism
B. cylinder
C. sphere
D. cube

2) How many triangular faces does this pyramid have?

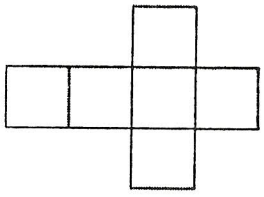


A. two
B. three
C. four
D. five

3) Name the three-dimensional figure that has two circular faces and no vertices.

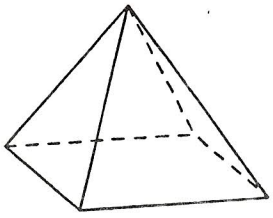
A. cone
B. sphere
C. prism
D. cylinder

4) What figure will the pattern below form when it is folded?



A. pyramid B. cone
C. sphere D. cube

5)



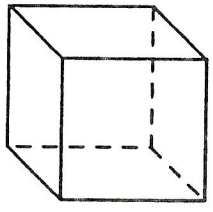
How many vertices does the figure above have?

_____

How many edges does the figure above have?

_____

6)



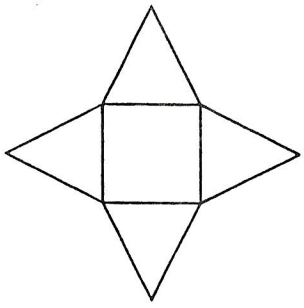
How many vertices does the figure above have?

_____

How many edges does the figure above have?

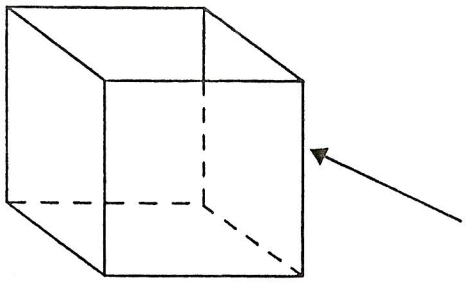
_____

7) What figure will the pattern make when it is folded?



A. rectangular pyramid
B. triangular prism
C. triangular pyramid
D. rectangular prism

8) Name the part of the figure shown by the arrow.

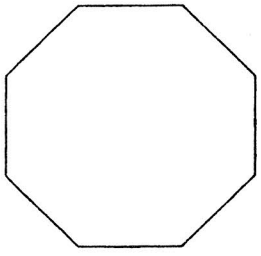


A. vertex
B. intersection
C. edge
D. face

9) Name the three-dimensional figure that has six square faces.

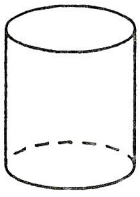
A. square
B. rectangular prism
C. cube
D. cylinder

10) How many vertices does the shape have?



A. 10 B. 8
C. 6 D. 4

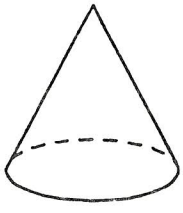
11)



How many vertices? _____

How many edges? _____

12)



How many vertices? _____

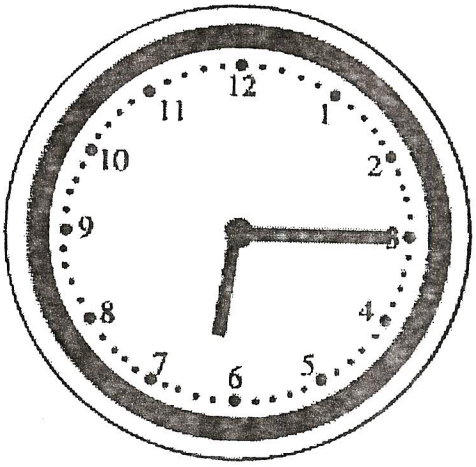
How many flat faces? _____

Elapsed Time

Calculating elapsed time is an <u>important</u> skill. You will find as you grow older that you will need this skill quite often to manage all of the activities in your day. The method we will use for calculating elapsed time is the "count-on" method, where you count the hours and minutes on a real or imaginary clock face.

How to Calculate Elapsed Time

Problem: Martha wakes up at 6:15 a.m. She must be ready to leave for school at 8:45 a.m. How much time does she have to get ready for school?



1. Count the hours first. Start from the beginning time of 6:15. From 6:15 to 7:15 is one hour. From 7:15 to 8:15 is another hour.

_____ *hours*

2. Now count the minutes from 8:15 until 8:45. _____ *minutes*

So Martha has _____ hours and _____ minutes to get ready for school.

Now you try. Find the elapsed time in each problem.

1) Zhang read a book from 10:06 in the morning until 3:29 in the afternoon. How much time passed while Zhang was reading?

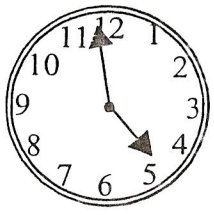
A. 5 hours 35 minutes
B. 5 hours 29 minutes
C. 5 hours 23 minutes
D. 4 hours 43 minutes

2) Luis gets on the bus every morning at 6:42 a.m. If he gets off the bus at 7:28 a.m., how many minutes is his bus ride?

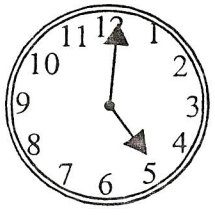
A. 18 minutes
B. 28 minutes
C. 36 minutes
D. 46 minutes

3) Kendra started her homework at 4:57 p.m. She finished her homework 15 minutes later. Which clock shows at what time Kendra completed her homework?

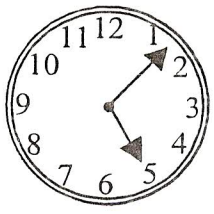
A.



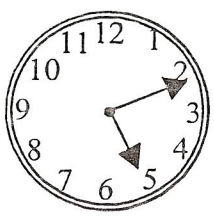
B.



C.



D.

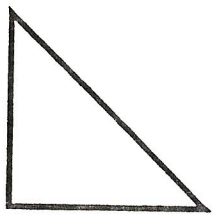
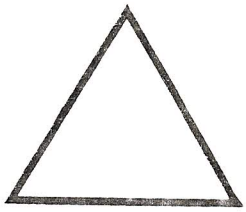
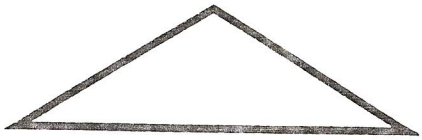


4) Chita drove 7 hours and 35 minutes to reach her friend's ranch. How many minutes did she travel?

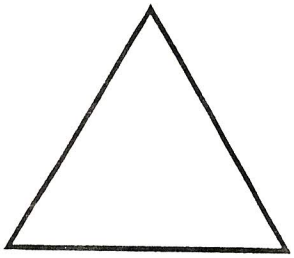
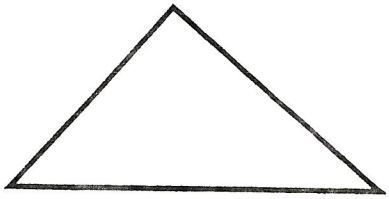
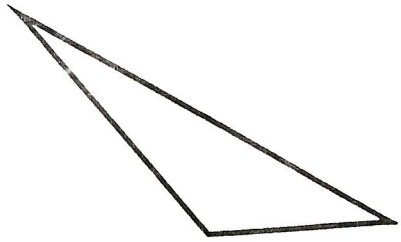
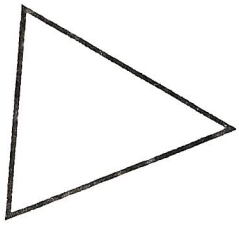
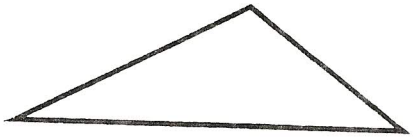
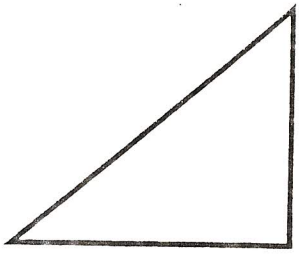
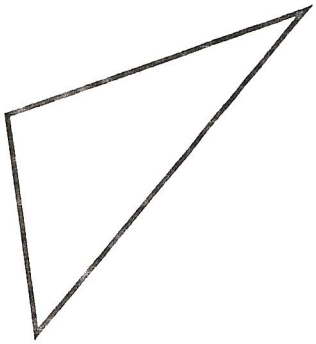
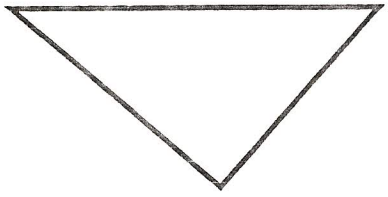
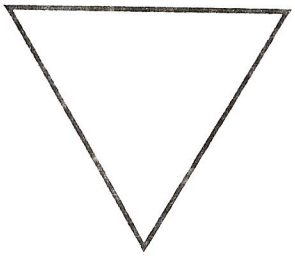
A. 420 minutes
B. 455 minutes
C. 465 minutes
D. 470 minutes

Types of Triangles

There are <u>three</u> types of triangles you need to know:

Right Triangle		Has a ***right*** angle.
Acute Triangle		Has <u>all</u> ***acute*** angles.
Obtuse Triangle		Has an ***obtuse*** angle.

Identify each triangle as *right*, *acute*, or *obtuse*.

 _____	 _____	 _____
 _____	 _____	 _____
 _____	 _____	 _____

1) The angles of a triangle measure 90°, 45°, and 45°. What type of a triangle is this?

A) Acute

B) Obtuse

C) Right

D) Left

2) Marcus has drawn an obtuse triangle on his paper. Which of the following could be the measurements of the triangle he has drawn?

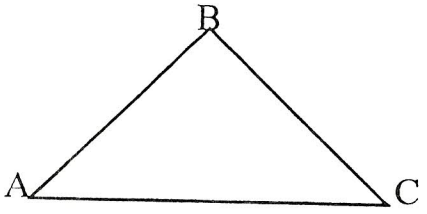
A) 60°, 60°, 60°

B) 45°, 60°, 75°

C) 40°, 90°, 50

D) 30°, 120°, 30°

3) Look at the triangle shown below.

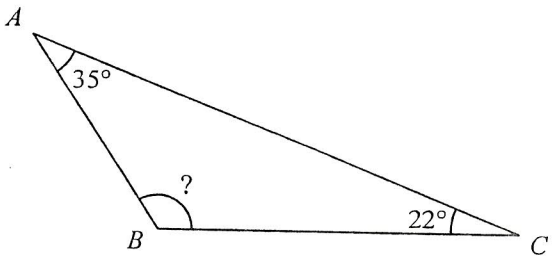


Which of the following could be the measure for ∠ABC?

A. 30° B. 44°

C. 90° D. 105°

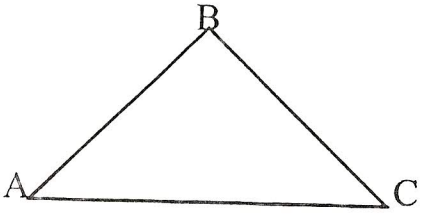
4) What is the measure of ∠*ABC*?



A. 123° B. 103°

C. 93° D. 33°

5) Look at the triangle shown below.



Which of the following could be the measure for ∠BCA?

A. 30° B. 90°

C. 97° D. 105°

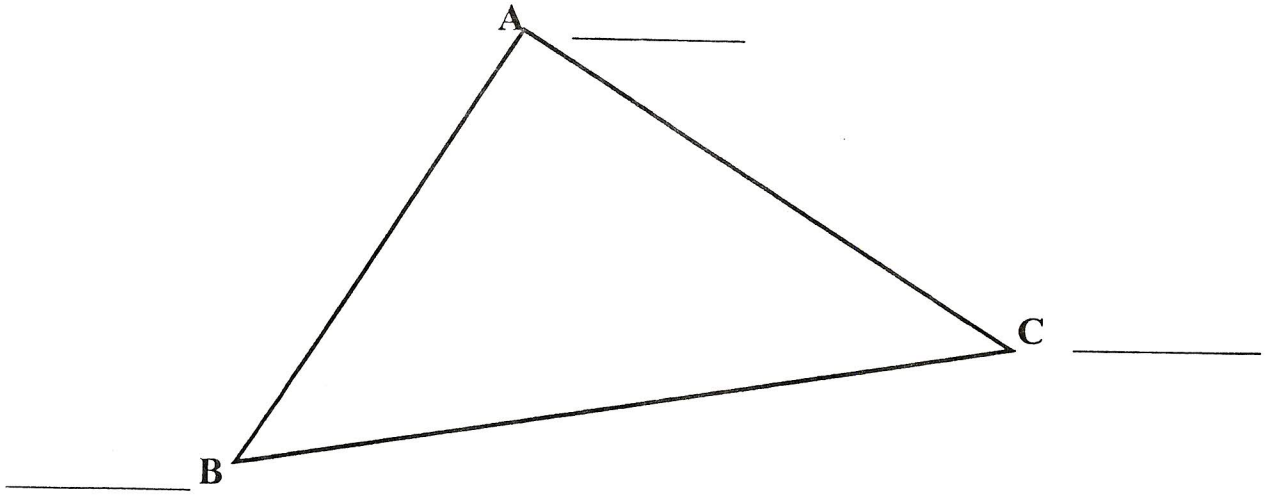
6) Maria has drawn an acute triangle on her paper. Which of the following could be the measurements of the triangle she has drawn?

A) 30°, 30°, 120°

B) 45°, 45°, 90°

C) 40°, 90°, 50

D) 65°, 85°, 30°



Write the measurements for the angles:

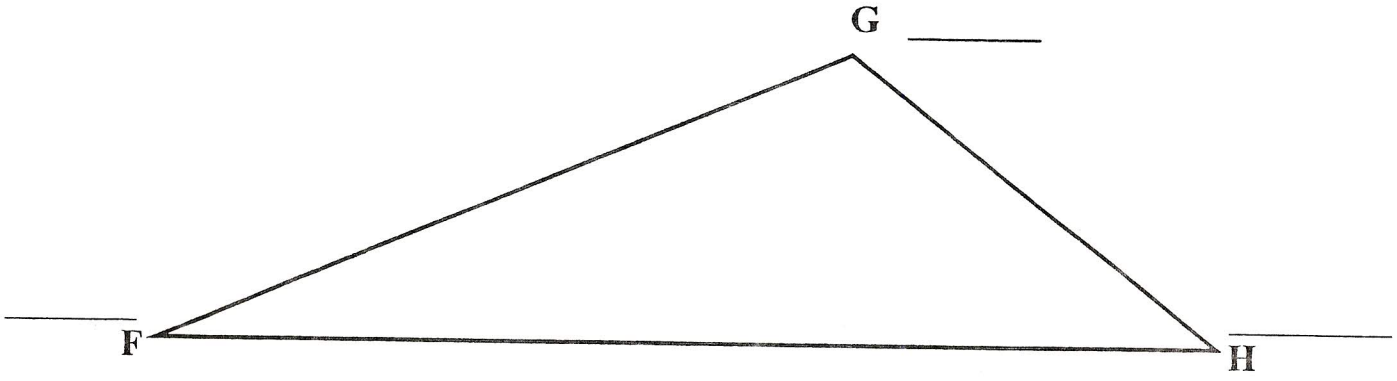
What type of triangle is this?

∠ABC = _____

_____

∠BCA = _____

∠BAC = _____



Write the measurements for the angles:

What type of triangle is this?

∠FGH = _____

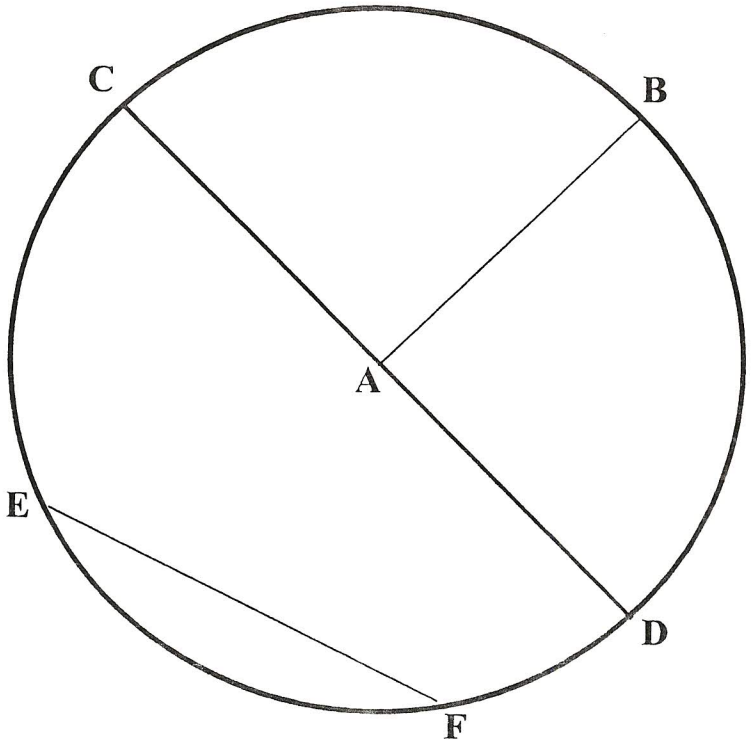
_____

∠GHF = _____

∠GFH = _____

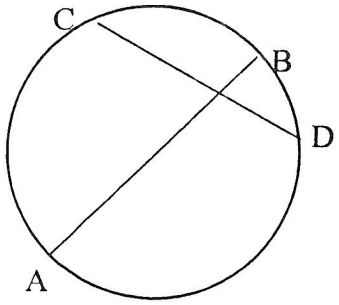
Circles

You need to know the following parts of a circle:



Circumference	*Blue*	**The distance <u>around</u> a circle.** *(Equal to about 3 times the diameter.)*
Diameter	*Pink*	**A line passing through the <u>center</u> of a circle.** *(Equal to twice the radius.)*
Radius	*Green*	**A line segment from the center of the circle to the outside edge of the circle** *(Equal to ½ the diameter)*
Chord	*Yellow*	**A line segment passing through <u>any</u> part of a circle.** Each end must touch the outside of the circle.

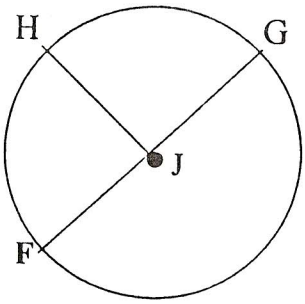
1)



Name line segment AB : _____

Name line segment CD : _____

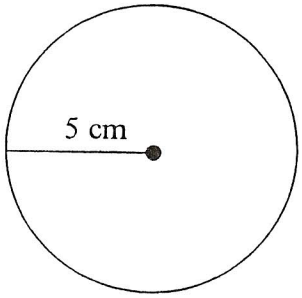
2)



Name line segment HJ : _____

Name line segment FG : _____

3)

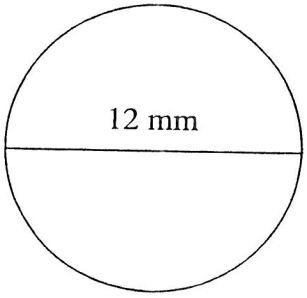


What is the *diameter* of this circle? _____ **cm**

What would be a good estimate of the *circumference*?

_____ **cm**

4)

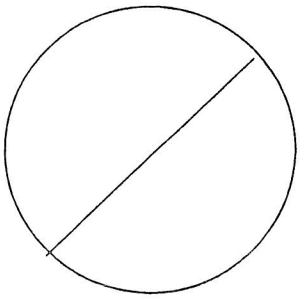


What is the *radius* of this circle? _____ **mm**

What would be a good estimate of the *circumference*?

_____ **mm**

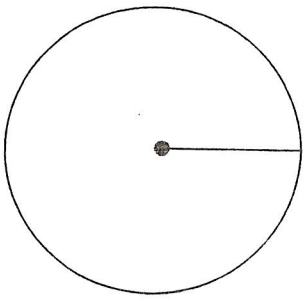
5)



What would be a *reasonable* <u>diameter</u> for a circle with a circumference of 18 inches?

_____ **inches**

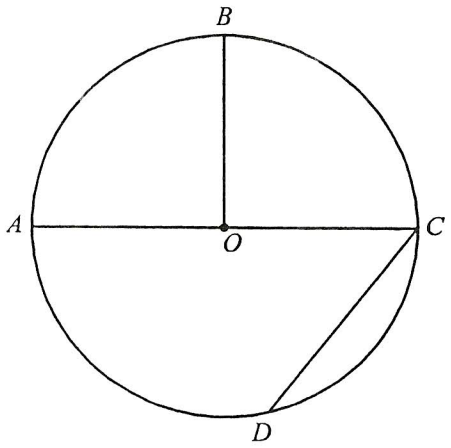
6)



What would be a *reasonable* <u>radius</u> for a circle with a circumference of 24 meters?

_____ **meters**

7)



Which is a radius of the circle?

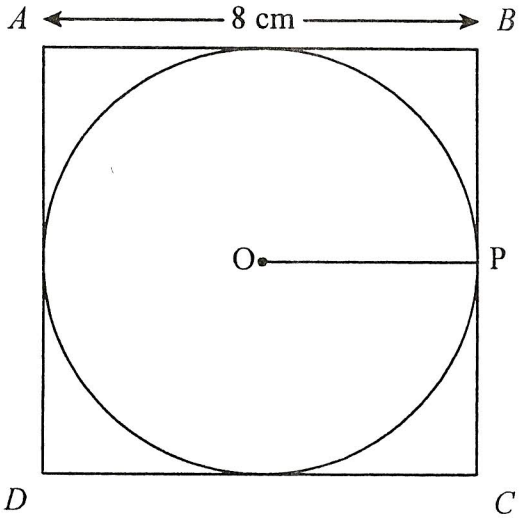
A. $\overline{AB}$

B. $\overline{AC}$

C. $\overline{BO}$

D. $\overline{CD}$

8)



Which could be the measure of OP?

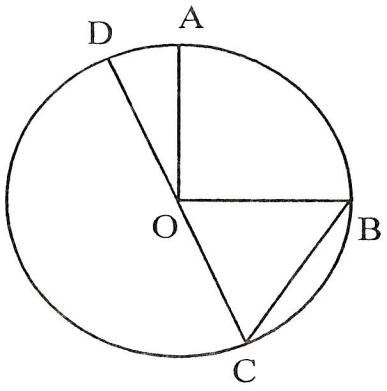
A. 8 cm

B. 6 cm

C. 4 cm

D. 2 cm

9) How many chords does the circle shown below have?



A. 5

B. 4

C. 3

D. 2

10) If a circle has a radius of 3 inches, what is its approximate circumference?

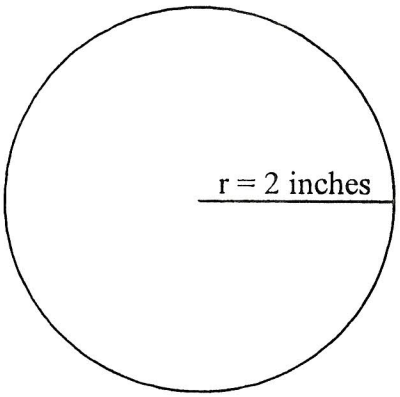
A. 6 inches

B. 9 inches

C. 18 inches

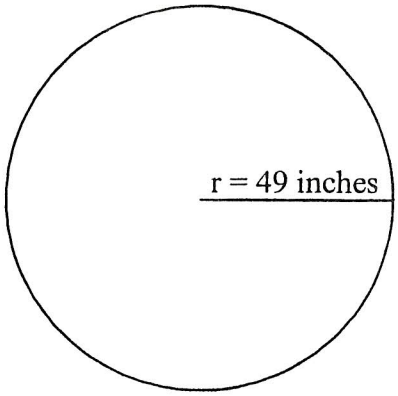
D. 29 inches

11) What is the diameter of the circle shown below?



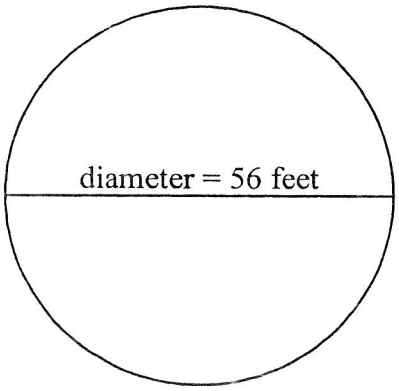
A. 1 inches
B. 2 inches
C. 4 inches
D. 6 inches

12) What is the approximate circumference of the circle shown below?



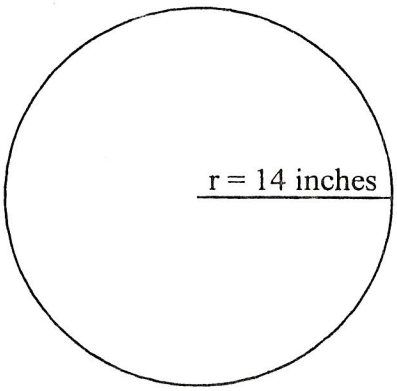
A. 49 inches
B. 98 inches
C. 147 inches
D. 294 inches

13) What is the radius and approximate circumference of the circle shown below?



A. Radius =168 feet, Circumference =28
B. Radius =28 feet; Circumference =168
C. Radius =56 feet; Circumference =28
D. Radius =28 feet; Circumference=56

14) What is the diameter of the circle shown below?



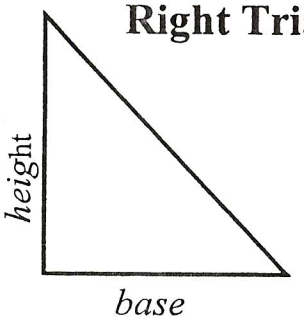
A. 7 square inches
B. 14 square inches
C. 28 square inches
D. 42 square inches

Area of Right Triangles

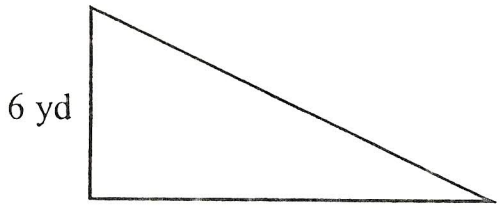
A right triangle is exactly ½ of a square or rectangle. So, if you know how to find the area and perimeter of a rectangle or square, then you can find the area of a right triangle.

The formula is: $\frac{\textbf{base} \times \textbf{height}}{\textbf{2}}$

Right Triangle



Example 1: (With diagram)



base *height*

$$\frac{\quad \times \quad}{2} = \frac{\quad}{2} = \text{----------}$$

Area = _____

Example 1: (Without diagram)

A right triangle has a base 3 inches long and a height of 4 inches. What is the area of this triangle?

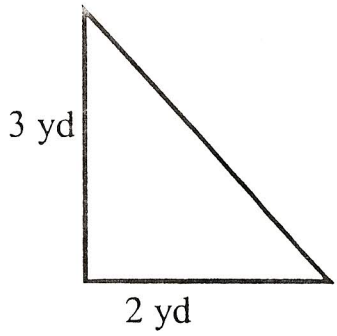
base *height*

$$\frac{\quad \times \quad}{2} = \frac{\quad}{2} = \text{----------}$$

Area = _____

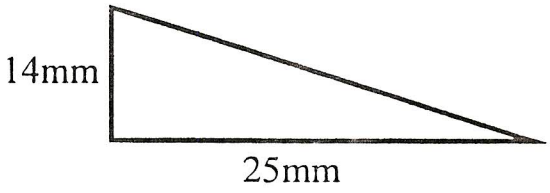
Find the area of each triangle.

1)



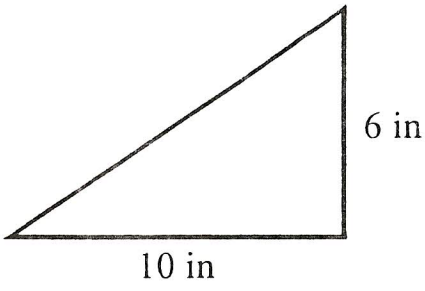
Area = _____

2)



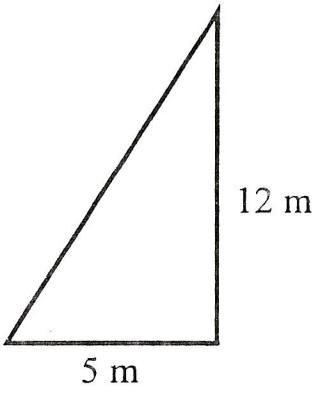
Area = _____

3)



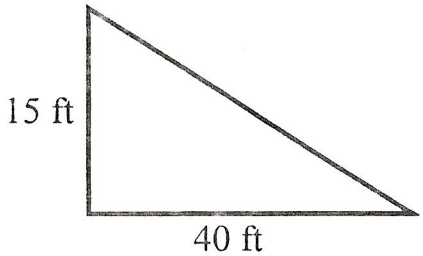
Area = _____

4)



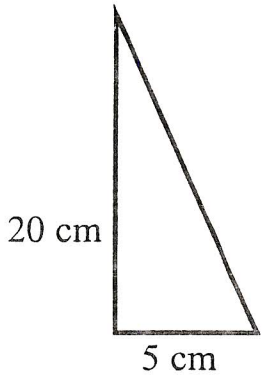
Area = _____

5)



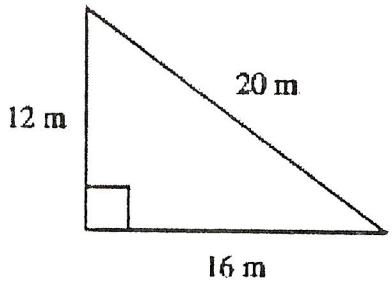
Area = _____

6)



Area = _____

7)



Find the area of the triangle.

A. 48 m^2

B. 96 m^2

C. 160 m^2

D. 192 m^2

8)

What would be the area of a triangle with a height of 12 mm and a base of 6 mm?

A. 6 mm^2

B. 18 mm^2

C. 36 mm^2

D. 72 mm^2

9)

What would be the area of a triangle with a base of 15 in. and a height of 6 in.?

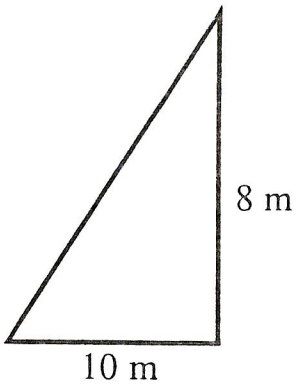
A. 9 in^2

B. 21 in^2

C. 45 in^2

D. 90 in^2

10)



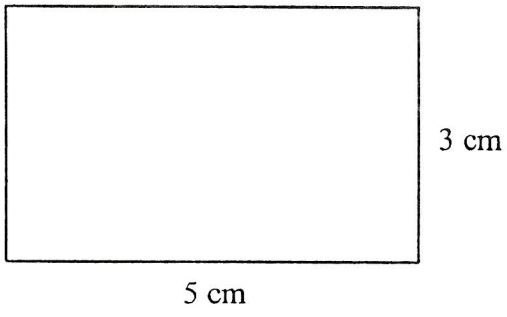
A. 2 m^2

B. 18 m^2

C. 40 m^2

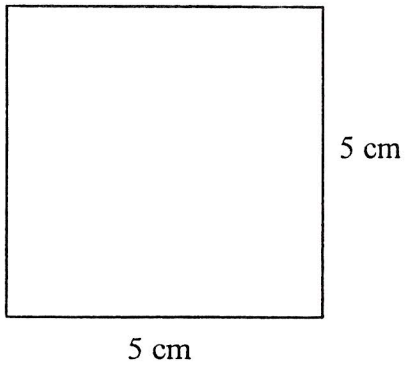
D. 80 m^2

11) **Find the area of the rectangle below.**



A. 8 square centimeters
B. 15 square centimeters
C. 16 square centimeters
D. 25 square centimeters

12) **Find the perimeter of the square below.**



A. 9 cm
B. 10 cm
C. 20 cm
D. 45 cm

13) If the length of a rectangle is 45 centimeters and the width is 7 centimeters, what is the perimeter of the rectangle?

A. 52 centimeters
B. 97 centimeters
C. 104 centimeters
D. 315 centimeters

14) What would be the area of a triangle with a base of 22 yd. and a height of 12 yd.?

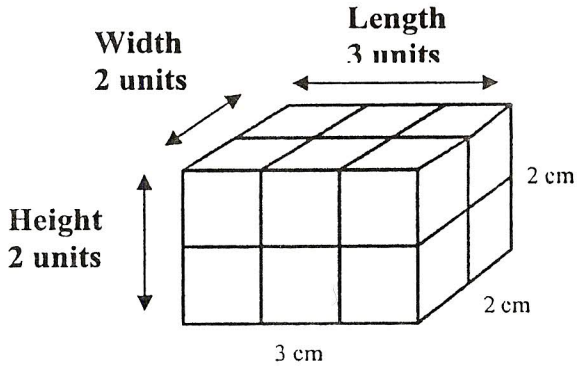
A. 10 yd^2
B. 34 yd^2
C. 132yd^2
D. 264 yd^2

VOLUME

The **volume** of a container is the amount of space inside the container, or the number of cubic units the container holds.

The formula is: $l \times w \times h$

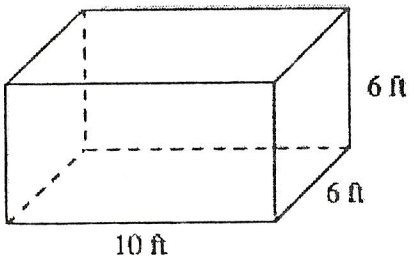
(length × width × height)



Volume is measured in ***cubic units*** *(units³)*.

Volume: _____

Example 1: (With diagram)



_____ × _____ × _____ = _____
length width height

Volume = _____

Example 2: (Without diagram)

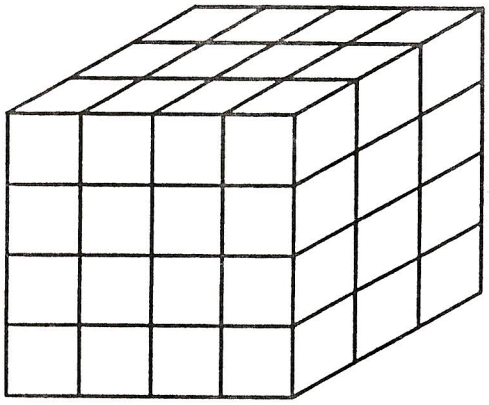
A rectangular prism has a length of 4 meters, a width of 2 meters, and a height of 3 meters. What is the volume?

_____ × _____ × _____ = _____
length width height

Volume = _____

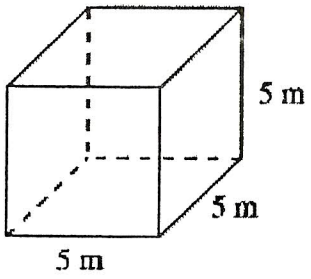
Find the volume of each figure.

1)



Volume = _____

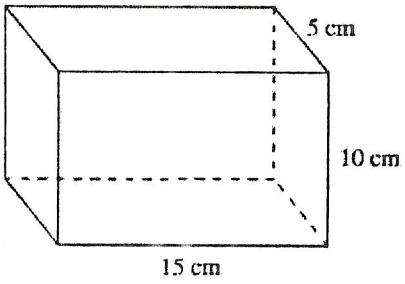
2)



Volume = _____

3)

Find the volume.



A. 30 cm^3

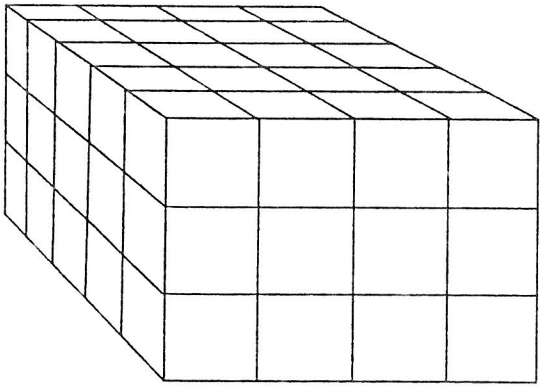
B. 65 cm^3

C. 125 cm^3

D. 750 cm^3

4)

What is the volume of this rectangular prism?



A. 60 cubic units

B. 76 cubic units

C. 95 cubic units

D. 106 cubic units

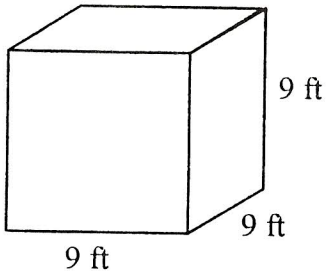
5)

Samantha is helping her grandfather make a rectangular garden. The garden will be 18 feet by 25 feet. They want to cover the garden with a 6-inch layer of topsoil. How many cubic feet of topsoil should they order?

A. 92 cubic feet
B. 225 cubic feet
C. 516 cubic feet
D. 2,700 cubic feet

6)

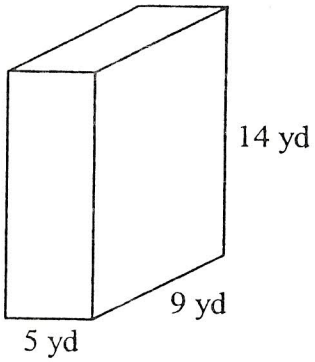
Find the volume of the figure below.



A. 54 cubic feet
B. 81 cubic feet
C. 486 cubic feet
D. 729 cubic feet

7)

Find the volume of the figure below.



A. 23 cubic yards
B. 56 cubic yards
C. 482 cubic yards
D. 630 cubic yards

8)

A box has a length of 50 mm, a height of 40 mm, and a width of 30 mm. What is the volume of the box?

A. 60,000 mm^3
B. 6,000 mm^3
C. 6,000 mm^2
D. 60,000 mm^2

9)

Tina wants to paint the walls in her room. What does she need to know about her walls in order to buy enough paint?

A) volume
B) area
C) perimeter
D) temperature

10)

Stephen is building a fence to protect his garden. Which of the following does he need to know about his garden in order to buy enough fencing?

A) mass
B) area
C) perimeter
D) volume

11)

Mrs. Corbin wants to buy a new TV set, and she wants to know if the box will fit in her trunk. Which measurement of her trunk does she need to know?

A) perimeter
B) area
C) temperature
D) volume

12)

Mark is sewing a tablecloth for his mother's table. What does he know about the table?

A) height
B) area
C) perimeter
D) volume

13)

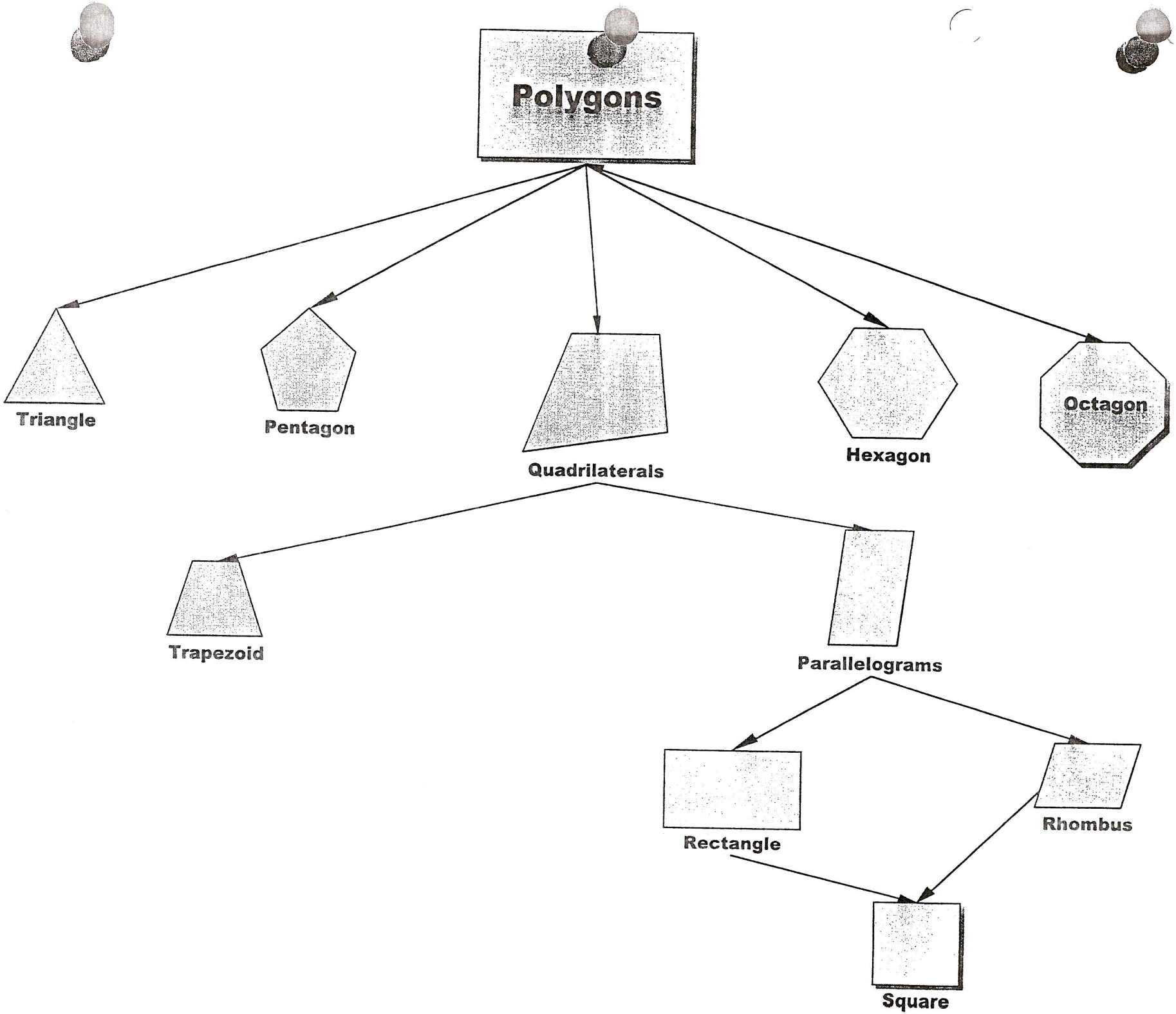
To buy the right size frame for a picture, which measurement do you need to know?

A) area
B) perimeter
C) length
D) width

14)

Terrence needs to know how much water his aquarium can hold. Which measurement would best help him find this out?

A) area
B) perimeter
C) temperature
D) volume


Polygons
Triangle
Pentagon
Quadrilaterals
Hexagon
Octagon
Trapezoid
Parallelograms
Rectangle
Rhombus
Square