*Name:*_____
Geometry CRT Review Version 1

1. *Given* : $RS \cong ST$. Which conjecture is not true
   a. ST = ST
   b. $\overline{RS}$ and $\overline{ST}$ are the same length
   c. RS = ST
   d. R, S, and T are collinear

2. **Statement 1: If Joy doesn't watch TV, then she reads.**
   Statement 2: If Joy reads, then she uses her imagination.

   Which of the following is a valid conclusion based on the statements above?
   a. If Joy doesn't watch TV, then she uses her imagination.
   b. If Joy reads, then she doesn't watch TV.
   c. If Joy doesn't use her imagination, then she doesn't watch TV.
   d. If Joy uses her imagination, then she doesn't watch TV.

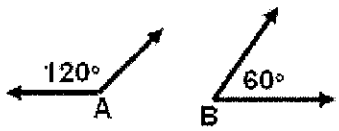
3. **If it is a square, then it is a rectangle**. Which of the following is true about this statement and its inverse?
   a. It is a true statement with a true inverse.
   b. It is a false statement with a false inverse.
   c. It is a true statement with a false inverse.
   d. It is a false statement with a true inverse.

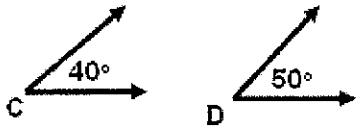
4. Given the statement, "If an angle measures 30 degrees, then it is acute," identify the converse, then determine if it is true or false.
   a. "If an angle is acute, then it measures 30 degrees; 73" True
   b. "If an angle is acute, then it measures 30 degrees; 73" False
   c. "If an angle is acute, then it does not measure 30 degrees; 73" True
   d. "If an angle is acute, then it does not measure 30 degrees; 73" False

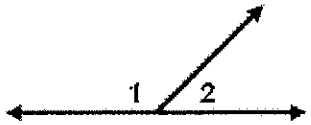
5. **While hiking, Tom and Janice saw a yellow flower. "If the flower is a sego lily," Janice declared, "then it is the state flower of Utah." Tom thought that the converse of Janice's statement was also true.** Which statement is the converse?

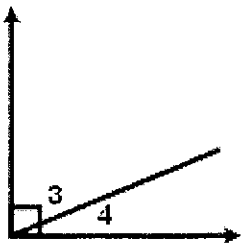
   a. If the flower is not a sego lily, then it is not the state flower of Utah.
   b. If the flower is not the state flower of Utah, then it is not a sego lily.
   c. If the flower is a sego lily, then it is not the state flower of Utah.
   d. If the flower is the state flower of Utah, then it is a sego lily.

6. Which of the following is a counterexample of the statement: "If two angles are supplementary, then they are a linear pair?"

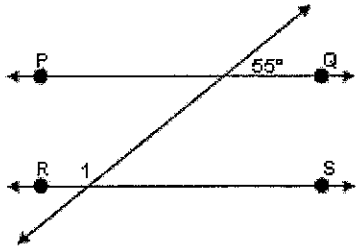
   a.
   

   b.
   

   c.
   

   d.
   

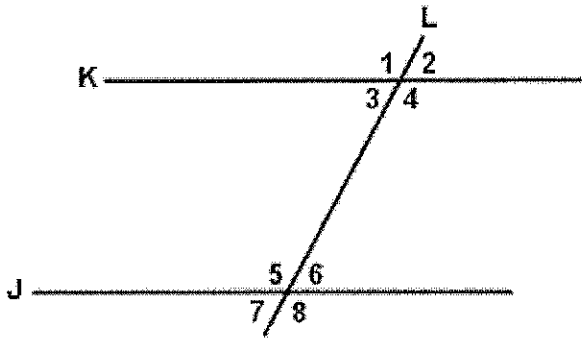
7. Given: $\overline{PQ} \parallel \overline{RS}$. What is m∠1?



a. 55° b. 35° c. 125° d. 115°

8.

Given: ∠1 and ∠6 are supplementary
Prove: K || J

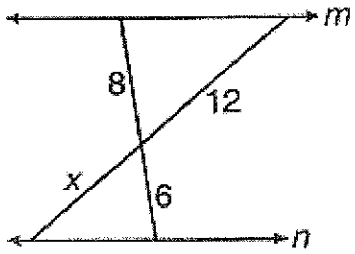


What could be the first and second statements of the proof?

a. ∠1 and ∠ 6 are supplementary, ∠1 ≅ ∠4
b. ∠1 and ∠ 6, K || J
c. ∠1 and ∠ 6, L || J
d. ∠1 and ∠ 6 are supplementary, ∠2 ≅ ∠5

9.

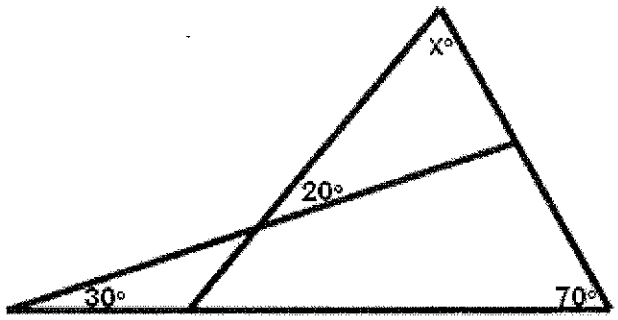
Given: $m \parallel n$



What is the value of x?

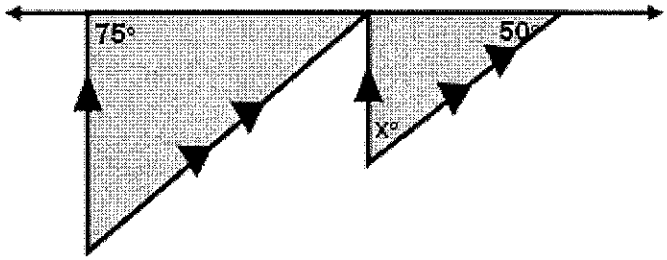
a. 6 b. 8 c. 9 d. 10

10. Given the following figure, what is the value of x?



a. 70 b. 60 c. 50 d. 40

11. Given the following triangle, what is the value of x?



a. 75 b. 65 c. 55 d. 50

12. A rectangle has a diagonal 12 inches long and a width of 4 inches. What is the length of the rectangle?

a. $8\sqrt{2}\,inches$ b. $4\sqrt{10}\,inches$
b. $6\sqrt{3}\,inches$ c. $10\sqrt{2}\,inches$

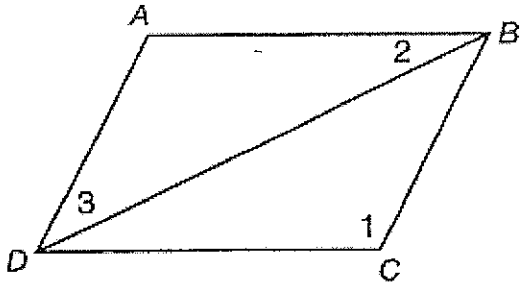
13. An altitude of an equilateral triangle is 10 centimeters long. What is the perimeter of the triangle?

a. 103.9 centimeters b. 60.0 centimeters

c. 52.0 centimeters d. 34.6 centimeters

14. Which of the following statements is **not** true?
a. The diagonals of a rhombus are perpendicular.
b. The diagonals of a parallelogram bisect the opposite angles.
c. Rectangles have four congruent angles.
d. Consecutive angles of a parallelogram are supplementary.

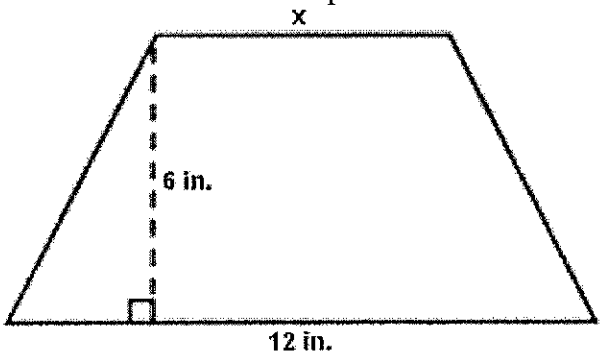
15. Given ABCD is a parallelogram.



If m∠1 = 110° and m∠2 = 30°, then what is the m∠3?

a. 45° b. 40° c. 35° d. 30°

16. Given the trapezoid below, what is the length of x if the area of the trapezoid is 78 in^2?



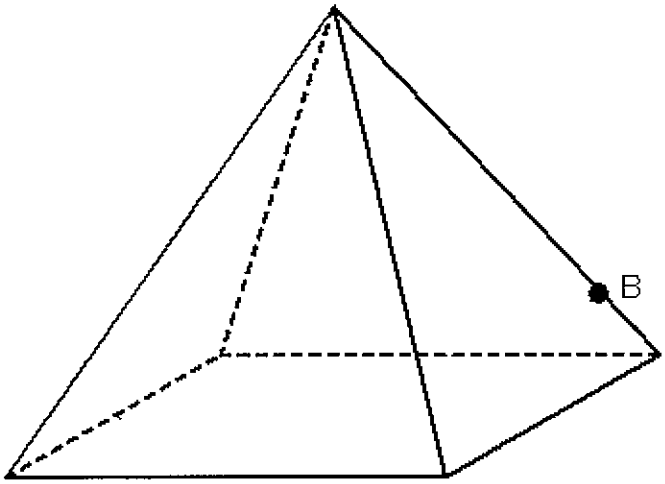
a. *6 in.* *b. 14 in* *c. 13 in.* *d. 1 in.*

17. What is the classification of a polyhedron with 8 faces, 6 vertices, and 12 edges?

a. Tetrahedron b. Octahedron

c. Hexadron d. Dodecahedron

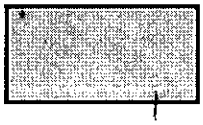
18. Given the square pyramid pictured here, if you slice the pyramid horizontally through point B, which of the following is the shape of the cross section?



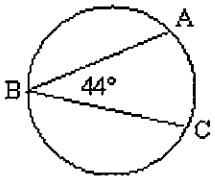
a. 

b. 

c. 

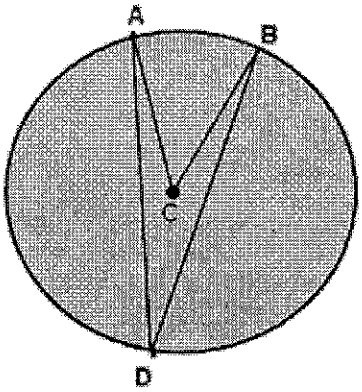
d. 

19. What is the measure of arc AC?



a. 88°
b. 66°
c. *44°*
d. 22°

20.



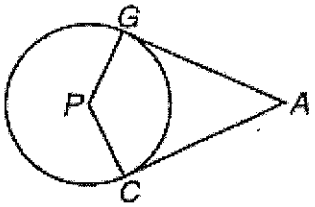
In ⊙C, m∠ACB=x. What is the m∠ADB?

a. $(\frac{1}{4}x)°$ b. $(2x)°$

c. $(\frac{1}{2}x)°$ d. $(x)°$

21.

$\overline{AC}$ and $\overline{AG}$ are tangent to circle P.



If m∠CAG = 50°, what is the measure of ∠CPG?

a. 130° b. 115° c. 100° d. 65°

22. What is the equation of a line that contains the point (-1,2) and is parallel to the line $y=-\frac{1}{2}x+5$

a. $y=-\frac{1}{2}x+2$ b. $y=-\frac{1}{2}x+\frac{3}{2}$

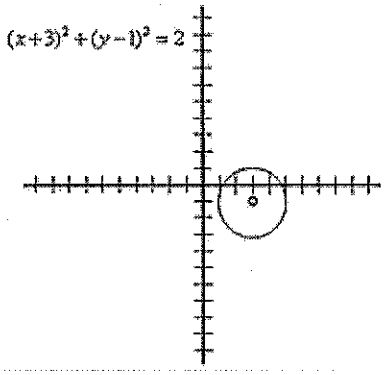
c. $y=2x+2$ d. $y=2x+\frac{3}{2}$

23. Find the distance between the points (0,2) and (3,4) and **leave in radical form.**

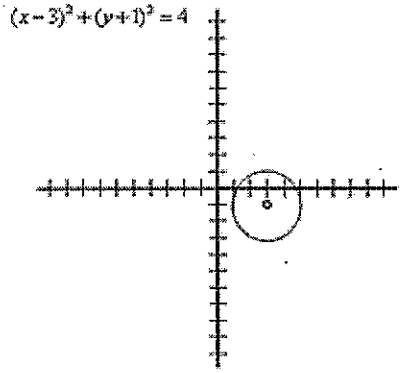
a. $\sqrt{6}$ b. $\sqrt{13}$ c. $\sqrt{26}$ d. $\sqrt{47}$

24. Given the radius of a circle is 2 and the center is at (3,-1), what is the correct equation and correct graph?

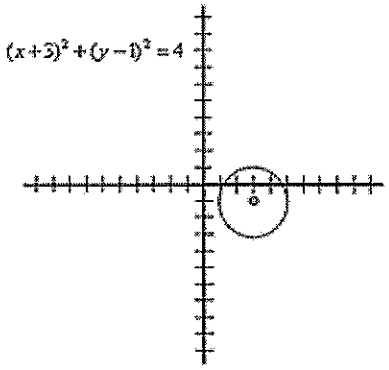
a.



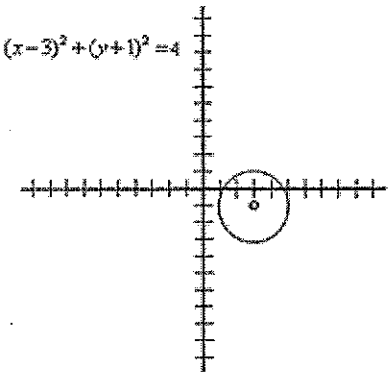
b.



c.



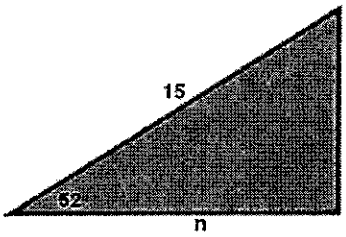
d.



25. The equation of a circle is:
$(x-4)^2 + (y+3)^2 = 36$.

Where is the location of the center of the circle?
a. (4, -3) b. (-4, 3) c. (-4, -3) d. (4, 3)

26. Given the following triangle,

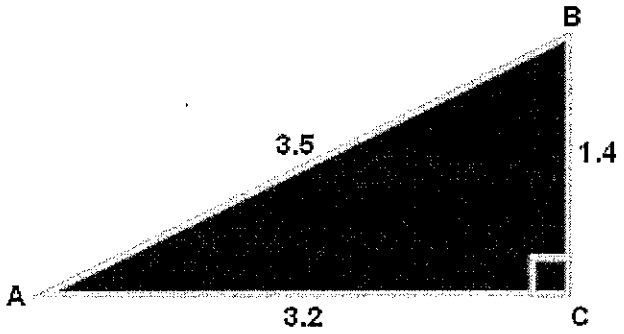


which of the following equations should be used to find the value of n?

a. $\tan 52° = \frac{15}{n}$ b. $\cos 52° = \frac{15}{n}$

c. $\sin 52° = \frac{n}{15}$ d. $\cos 52° = \frac{n}{15}$

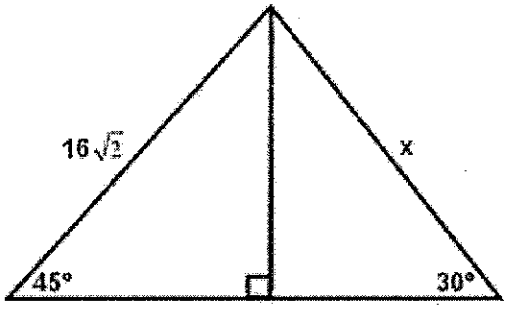
27.
Given ΔABC,



what is cos A?

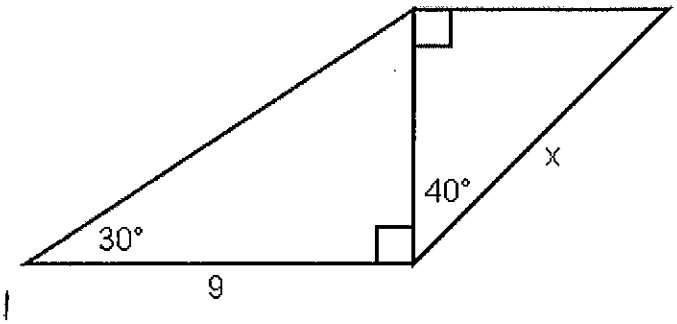
a. 2.29 b. .91 c. .44 d. .40

28. Given the following triangle, **what is the value of x?**



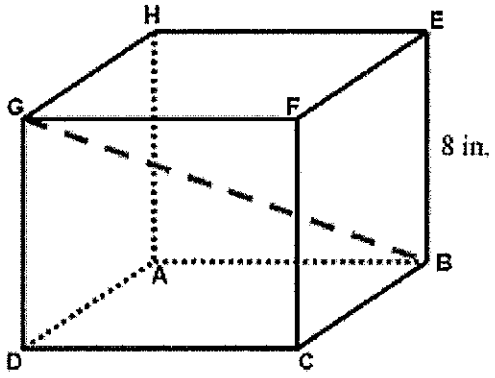
a. $16\sqrt{3}$ b. $16\sqrt{2}$ c. 32 d. $32\sqrt{2}$

29. Given the following quadrilateral, **what is the value of x?**



a. 6.2 b. 6.8 c. 8.1 d. 8.3

30. Given the cube below,



what is the length of the diagonal $\overline{GB}$?

a. $6\sqrt{3}$ in b. $8\sqrt{5}$ in c. $8\sqrt{3}$ in d. $16\sqrt{2}$ in

1. c

Name: _____

_____ Date: _____

Period: _____

Geometry CRT Review Version 2

1. **Statement 1: The 2002 Olympic skiing events were held in Utah.**
   Statement 2: John skied in Utah in 2002.
   Which of the following is a valid conclusion based on both of the statements above?

   a. John skied in the 2002 Olympics
   b. John did not ski in the 2002 Olympice.
   c. If John did not ski in the 2002 Olympics, then he did not ski in Utah.
   d. If John skied in the 2002 Olympics, then he skied in Utah.

2. Which of the following statements if **false**?

   a. Two angles are supplementary if and only if the sum of the measures of the angles is 180°.
   b. Two angles are congruent if and only if the angles are vertical angles.
   c. A triangle is an isosceles triangle if and only if two angles of the triangle are congruent.
   d. Two triangles are similar if and only if the corresponding angles of the two triangles are congruent.

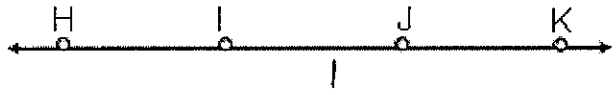
3. Given the statement, "If an angle measures 30 degrees, then it is acute," what is the converse and is it true or false?

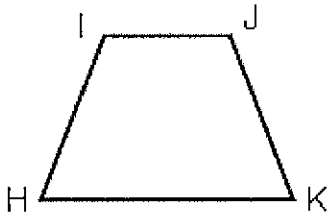
   a. "If an angle is acute, then it measures 30 degrees;73" True
   b. "If an angle is acute, then it measures 30 degrees;73" False
   c. "If an angle is acute, then it does not measure 30 degrees;73" True
   d. "If an angle is acute, then it does not measure 30 degrees;73" False

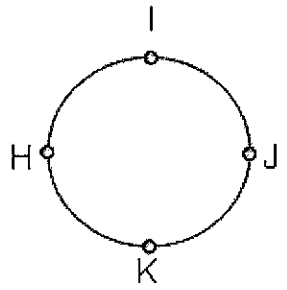
4. **If the lines are parallel, then the alternate interior angles are congruent.** Which statement is the **inverse** of the statement above?

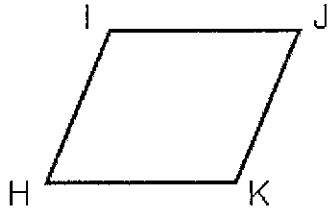
   a. If the alternate interior angles are congruent, then the lines are parallel.
   b. If the alternate interior angles are not congruent, then the lines are not parallel.
   c. If the lines are parallel, then the alternate interior angles are not congruent.
   d. If the lines are not parallel, then the alternate interior angles are not congruent.

5. Given: Points H, I, J, and K. Conjecture: H, I, J, and K are noncollinear.
   Which figure is a counterexample of the information above?

a. 

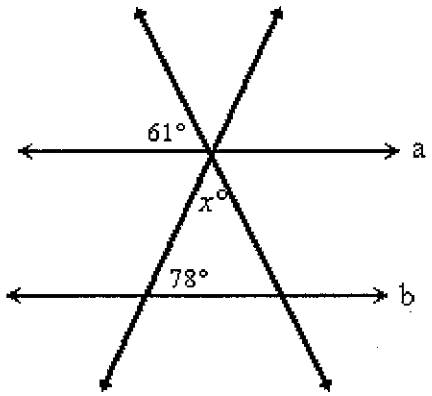
b. 

c. 

d. 

6.

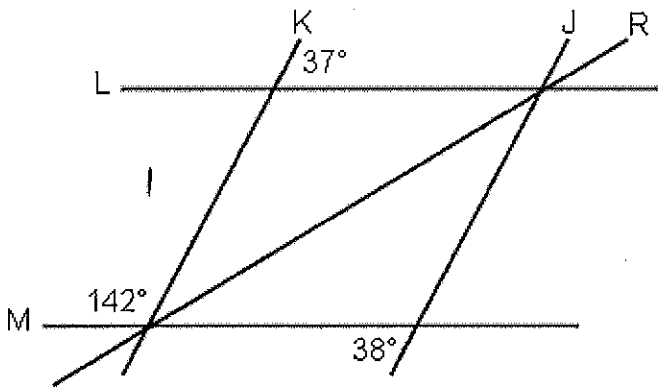
Given: $a \parallel b$



What is m∠x?

a. 41° b. 61° c. 78° d. 108°

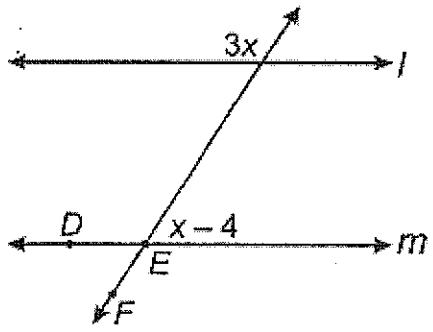
7. Given the figure below, which relationship of lines is true?



a. $M \perp J$ b. $M \perp L$ c. K || J d. M || L

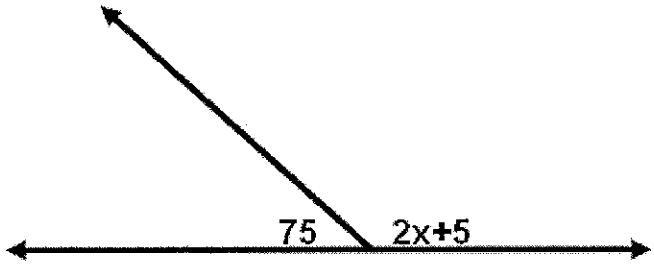
8.

Given: $l \parallel m$. What is the m∠DEF?



a. 42° b. 46° c. 134° d. 138°

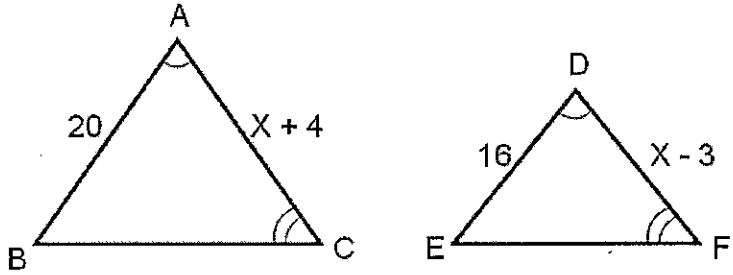
9. Given the following figure, what is the value of x?



a. 50 b. 10 c. 15 d. 20

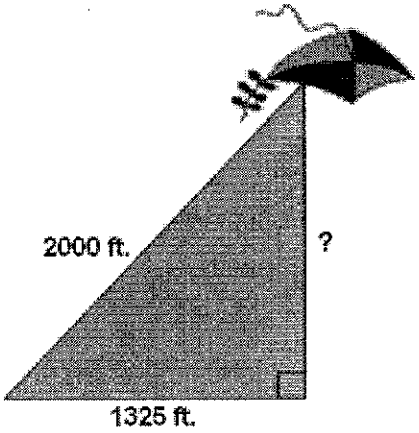
10.

Given the two triangles below, what is the length of $\overline{AC}$?



a. 35 b. 32 c. 31 d. 29

11. What is the approximate height of the kite?

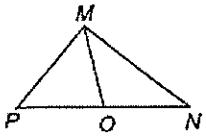


a. 1,192 feet b. 1,202 feet

c. 1,498 feet d. 954 feet

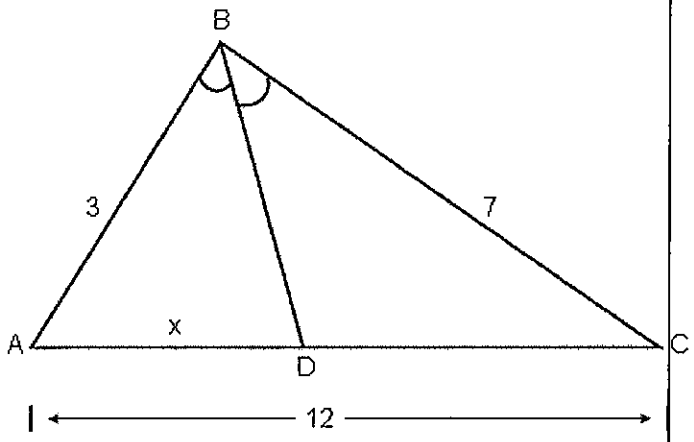
12.

Given: $\overline{MO}$ is a median of ΔMNP, $\overline{MO} \cong \overline{ON}$, and $m\angle MON = 130°$. What is the $m\angle OMP$?



a. 25° b. 50° c. 65° d70°

13. Given the following triangle, what is the value of x?



a. 8.4 b. 7.1 c. 4.9 d. 3.6

14. Which one of the geometric figures below have the following characteristics:
- Opposite sides are parallel
- Diagonals are different lengths
- Diagonals intersect at right angles

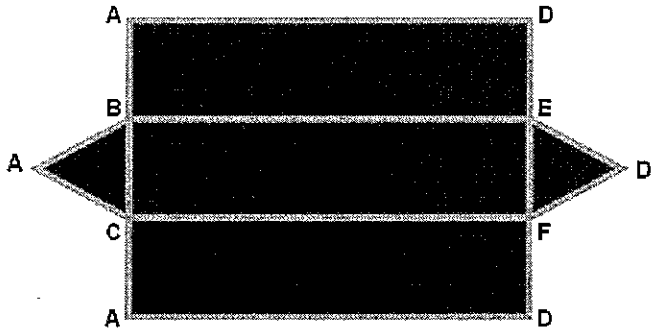
a. trapezoid b. rhombus

c. rectangle d. parallelogram

15. How many sides will a regular polygon have if each exterior angle (one at each vertex) has a measure of 45°?

a. 12 b. 10 c. 8 d. 6

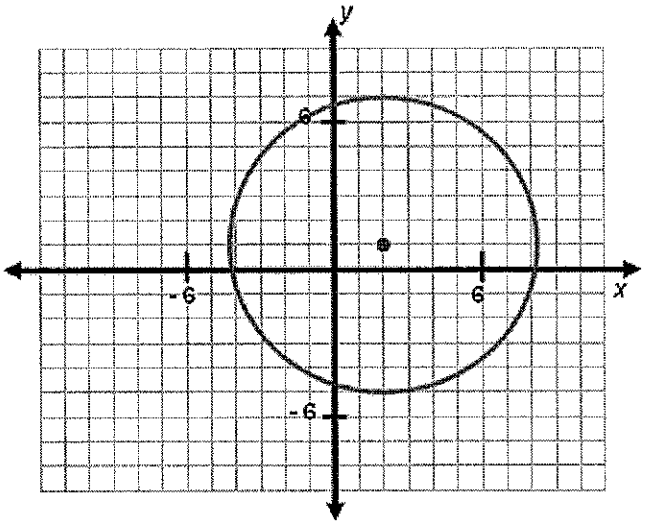
17. This is a net of a polyhedron. How should Carlos classify the figure?



a. triangular prism b. rectangular prism

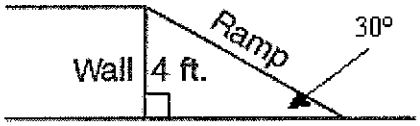
c. pentagonal prism d. heptagonal prism

25. What is the equation of the circle?



a. $(x+2)^2 + (y+1)^2 = 6$
b. $(x+2)^2 + (y+1)^2 = 36$
c. $(x-2)^2 + (y-1)^2 = 6$
d. $(x-2)^2 + (y-1)^2 = 36$

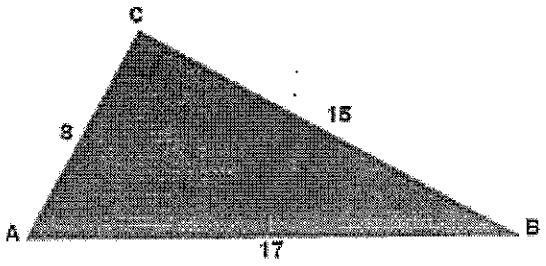
26. Builders want to make a ramp that is a 30° angle with the ground. If the ramp needs to rise 4 feet, how far will the end of the ramp be from the base of the wall?



a. 4.0 feet b. 5.7 feet c. 6.9 feet d. 8.0 feet

27.

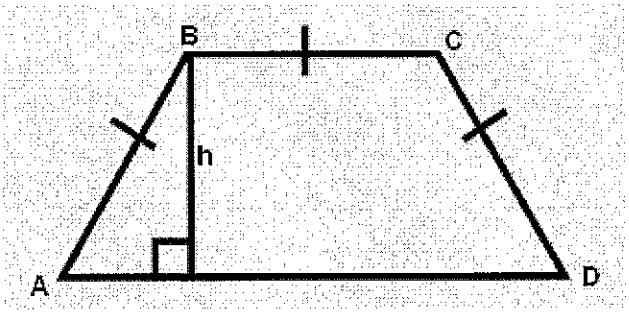
Given $\triangle ABC$,



what is *sin B*?

a. $\frac{8}{17}$ b. $\frac{8}{15}$ c. $\frac{15}{17}$ d. $\frac{15}{8}$

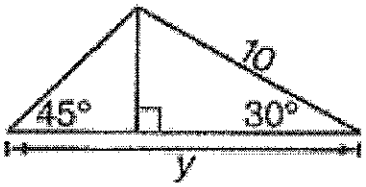
29. Given isosceles trapezoid ABCD where AB = 6 in. and AD = 10 in.



what is the height, h, of the trapezoid?

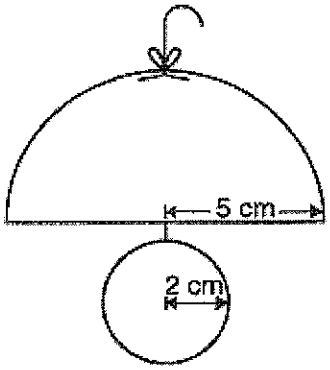
a. $2\sqrt{5}$ in b. $4\sqrt{2}$ in c. $2\sqrt{10}$ in d. $4\sqrt{5}$ in

30. Given the following triangle, what is the value of y?



a. $5\sqrt{2}$ b. $5+5\sqrt{2}$ c. $5\sqrt{3}$ d. $5+5\sqrt{3}$

32.

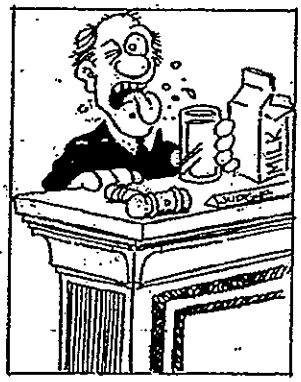


The craft class is making ceramic bell mobiles. Each mobile has a smaller round bulb hanging below a larger hemisphere as shown above. The radius of the small bulb is 2 centimeters. The radius of the hemisphere is 5 centimeters. If the students paint the outside of both pieces, approximately how much surface area will they have to cover?

a. 151 cm^2 b. 207 cm^2
c. 296 cm^2 d. 364 cm^2

How Did the Judge Find Out About the Rotten Milk?

Do each exercise and find your answer in the Code Key. Notice the letter next to the answer. Write this letter in the box containing the number for the exercise.



I. Complete each statement.

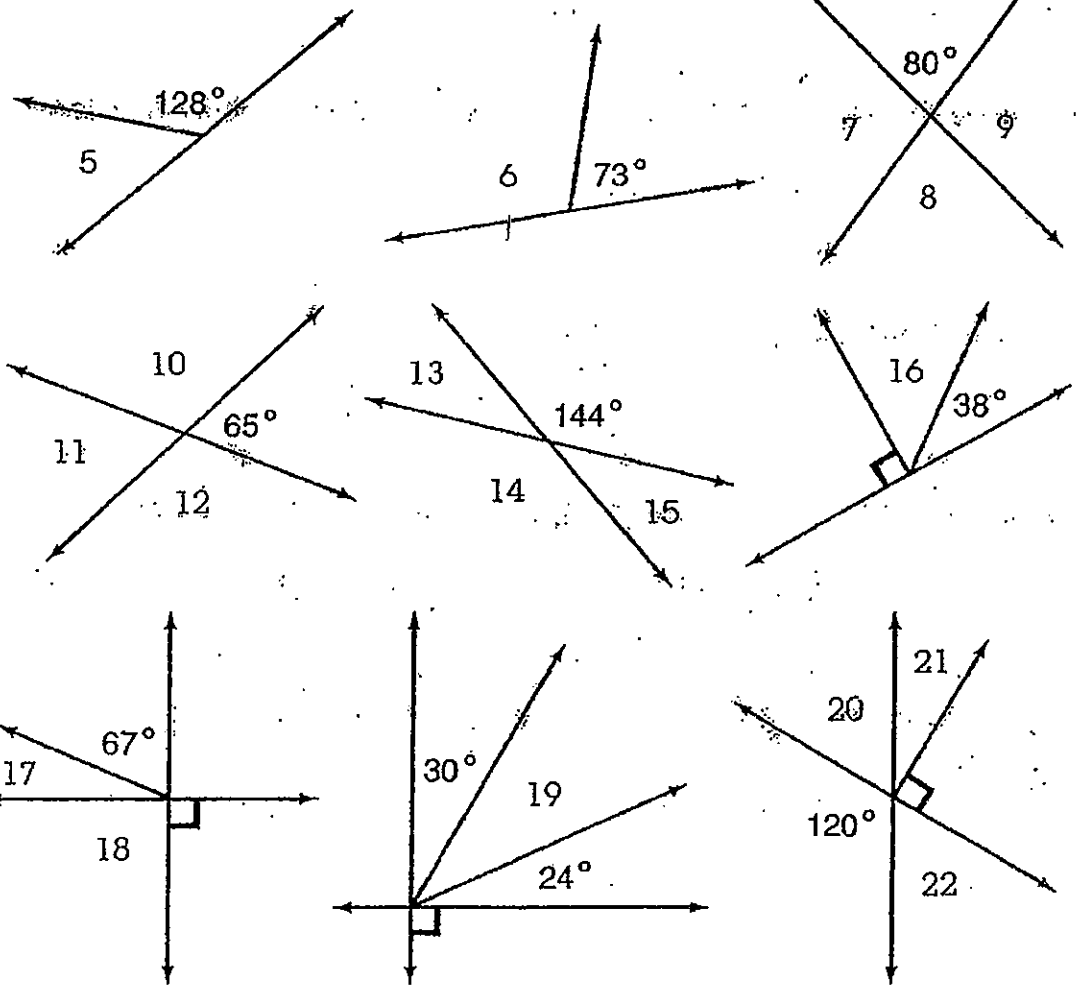
(1) Two angles are *complementary* if the sum of their measures is _____.

(2) Two angles are *supplementary* if the sum of their measures is _____.

(3) The *complement* of a 30° angle has a measure of _____.

(4) The *supplement* of a 65° angle has a measure of _____.

II. Find the measure of each numbered angle.



CODE KEY	
23°	D
30°	Q
36°	T
52°	A
60°	R
65°	U
80°	I
90°	O
100°	H
107°	S
115°	E
144°	W
180°	N

13	7	12	3	10	14	16	6	18	17	1	20	8	2	19	9	4	21	11	5	22	15