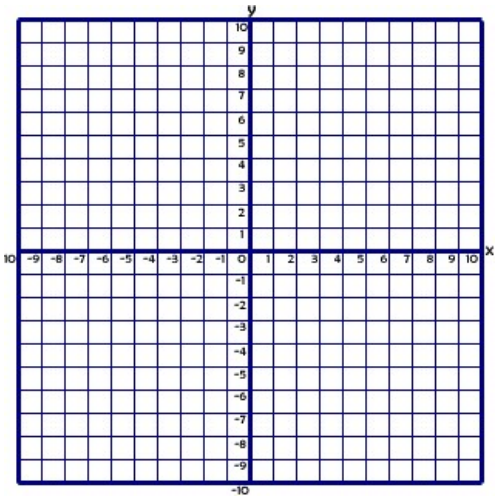
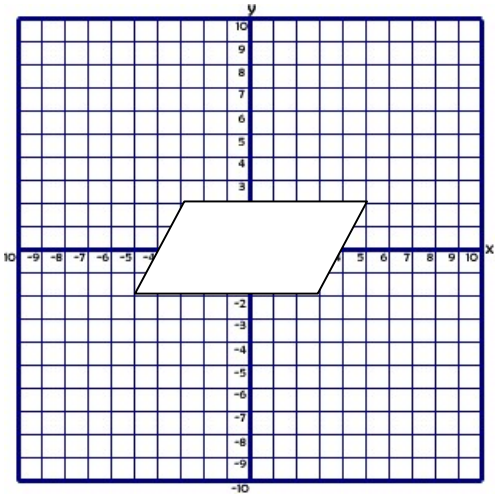
1 . ΔLMN is located at these coordinates. L (3,1), M(-2,5) and N (1,-1). If this triangle is reflected across the line y=2, what will be the coordinated of M'?



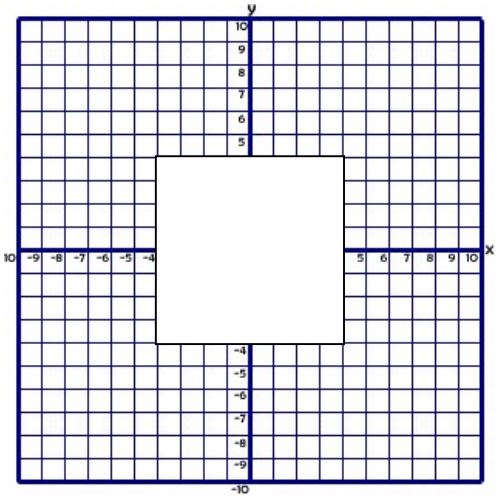
A. (2,5)
B. (6,5)
C. (-2,-1)
D. (-2,-5)

2. For the parallelogram at the right, which of these transformations would map the figure back on to itself?



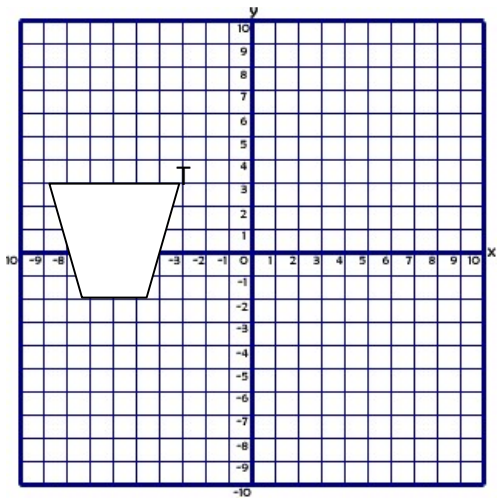
A. Reflect over the x axis
B. Reflect over the y axis
C. Rotate 90 degrees clockwise about the origin
D. Rotate 180 degrees counter-clockwise about the origin

3. Which of these transformations would **not** map this square back onto itself?



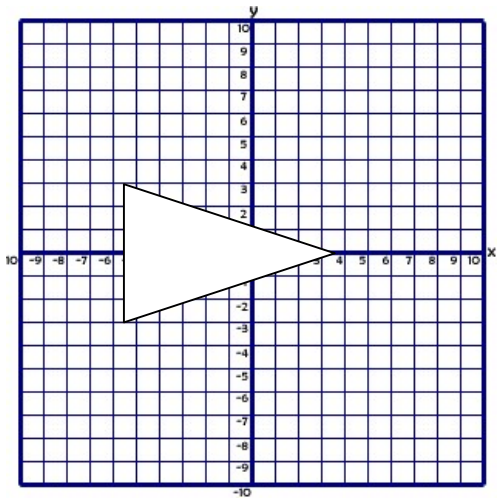
A. Reflect over the x axis
B. Reflect over the y axis
C. Rotate 45 degrees clockwise about the origin
D. Rotate 90 degrees counter-clockwise about the origin

4. The figure shown to the right is translated 5 units right and 2 units up. What are the coordinates of T' after the transformation is finished?



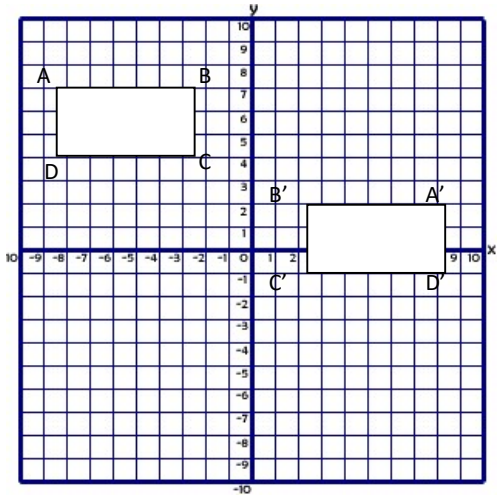
A. (-3,3)
B. (-1,-2)
C. (2,1)
D. (2,5)

5. Which of these transformations would map this isosceles triangle back onto itself?



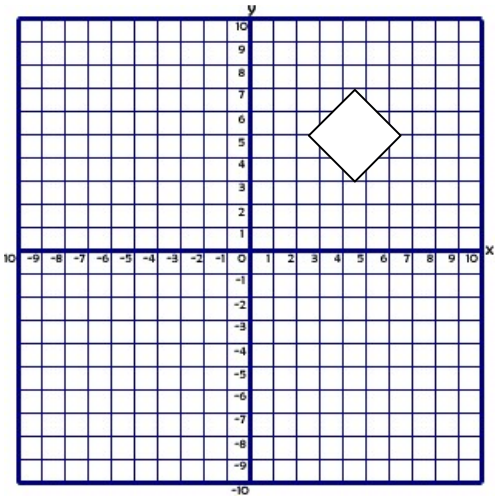
A. Reflect over the x axis
B. Reflect over the y axis
C. Rotate 45 degrees clockwise about the origin
D. Rotate 90 degrees counter-clockwise about the origin

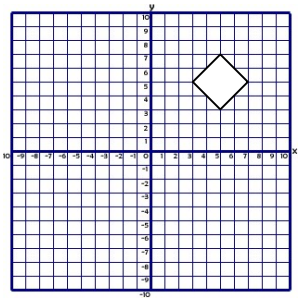
6. Which series of transformations would create image to the right?

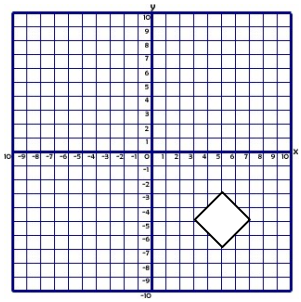


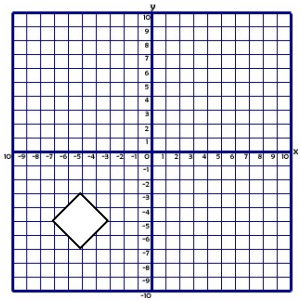
A. Reflect over the y=3 and translate 8 units right
B. Reflect over the y axis and translate 5 units down
C. Reflect over the line y=x+3
D. Rotate 90 degrees clockwise about the origin

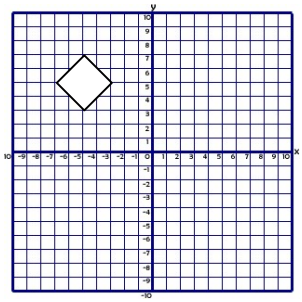
7. The figure at the right is rotated 90 degrees counter clockwise about the origin, which graph shows the final image?



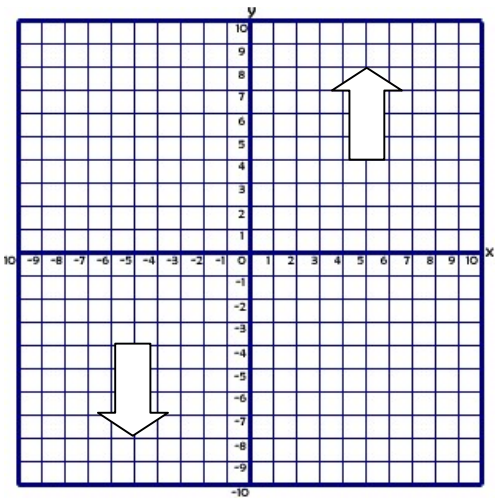
A. 

B. 

C. 

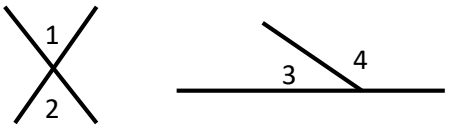
D. 

8. Which series of transformations would create the image to the right?



A. Reflect over the y=-1 and translate 8 units left
B. Reflect over the y axis and translate 5 units down
C. Reflect over the line y=-x
D. Rotate 180 degrees clockwise about the origin

9. On the right you see part of a two-column proof. What reason could be used to fill in the missing space?

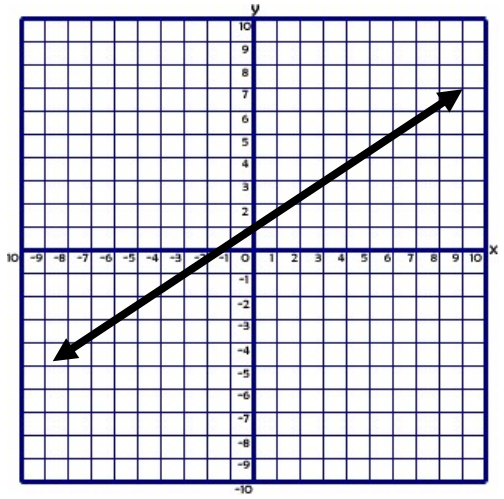


A. Transitive property
B. Vertical angles are equal
C. Definition of supplementary
D. The figure

Given: m∠2=m∠3
Prove: m∠1+m∠4=180

Statements	reasons
1. m∠2=m∠3	given
2. m∠1=m∠2	?
3. m∠3+m∠4=180	Def. Linear Pair
4. m∠2+m∠4=180	Substitution
5. m∠1+m∠4=180	Substitution

10. Which of these is the equation of the line that passes through the point (6,2) and is parallel to the line $y=\frac{2}{3}x+1$?



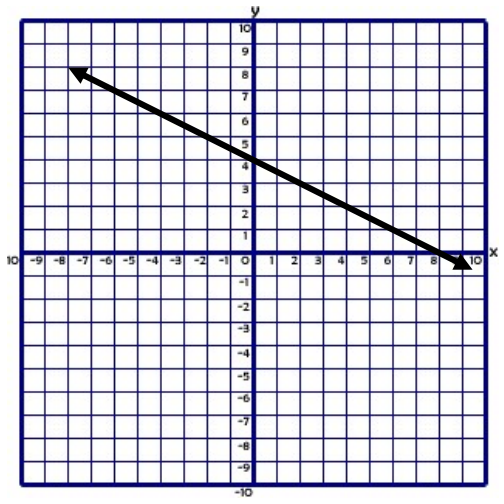
A. $y=\frac{2}{3}x-6$

B. $y=\frac{1}{3}x-2$

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

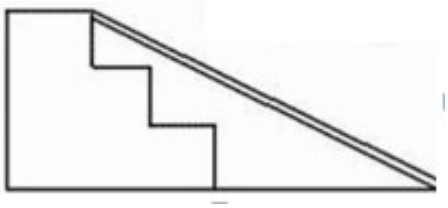
D. $y=\frac{2}{3}x-2$

11. What is the y-intercept of a line that is parallel to the line shown but passes through the point (8,-6)?



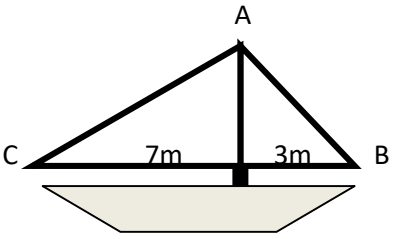
A. 2
B. 0
C. -2
D. -6

12. Robert needs to add a ramp for his front porch. The height of the porch is 3 feet. He wants to start the ramp 8 feet out from the porch. To the nearest tenth of a foot, how long does the ramp need to be?



A. 3.2
B. 7.4
C. 8.5
D. 11.0

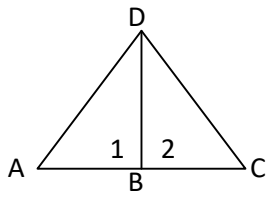
13. The diagram to the right shows a boat with two sails. Both sails have the same height but different bases as shown. If the length from A to B is 5m how far is it from A to C to the nearest tenth of a meter?



A. 3.3
B. 4.8
C. 8.1
D. 17.5

14. On the right you see part of a two-column proof. What reason could be used to fill in the missing space?

A. SSS
B. ASA
C. SAS
D. AAS

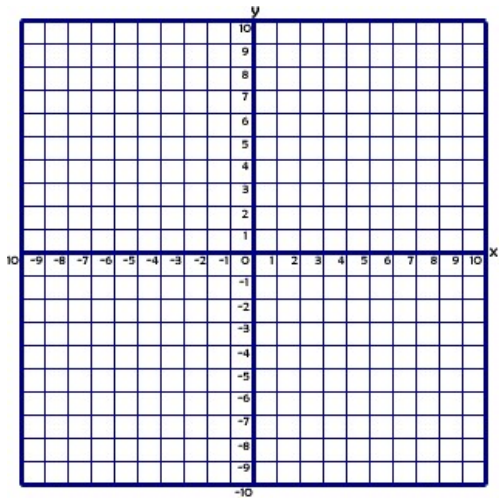


Given: B is the midpoint of $\overline{AC}$
$\measuredangle 1 \cong \measuredangle 2$
Prove: $\Delta ABD \cong \Delta CBD$

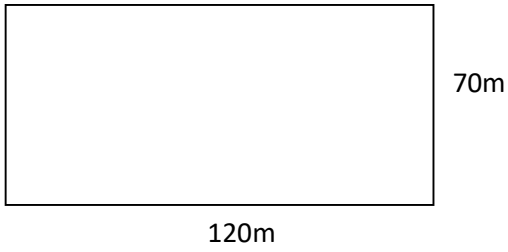
Statements	Reasons
1. B is midpt of $\overline{AC}$ $\measuredangle 1 \cong \measuredangle 2$	Given
2. $\overline{AB} \cong \overline{BC}$	Def of midpt
3. $\overline{BD} \cong \overline{BD}$	Reflexive Prop
4. $\Delta ABD \cong \Delta CBD$	?

15. A triangle has vertices located at (-2,1), (4,3) and (2,5). Find the perimeter of the triangle to the nearest tenth of a unit.

A. 8.7
B. 9.8
C. 14.8
D. 24.0

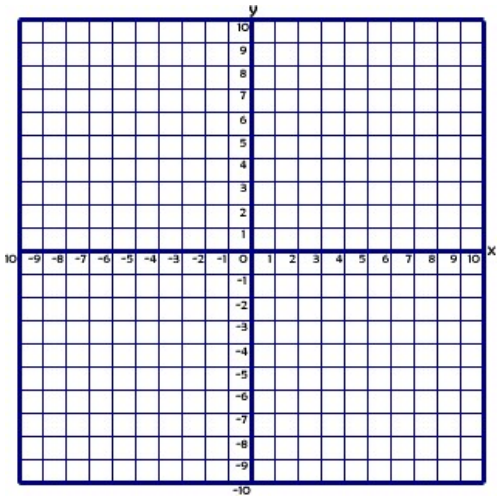


16. Hector and Jamie are out walking and come to a flat park as shown to the right. Hector wants to cut straight across the grass while Jamie wants to stay on the sidewalk. How much farther will Jamie walk than Hector to the nearest meter?



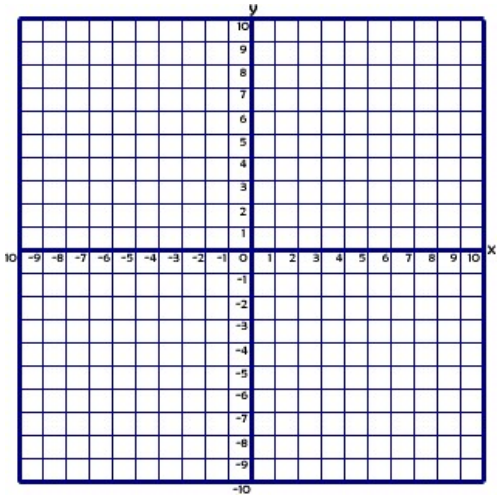
A. 51
B. 85
C. 140
D. 190

17. A quadrilateral has vertices located at (-3, 2), (3, 5), (8, 0) and (5,-3). What is the perimeter of the quadrilateral to the nearest tenth of a unit?



A. 13.6
B. 14.2
C. 27.5
D. 100.5

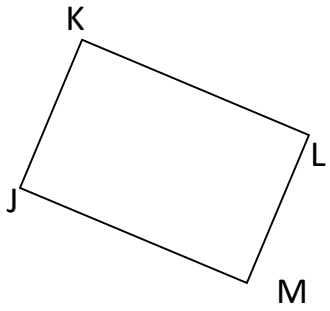
18. Two vertices of a rectangle are located at the points (-5,6) and (7,1). If the rectangle has an area of 60 square units which of these could be another one of the vertices?



A. (6,7)
B. (7,6)
C. (-5,7)
D. (0,8)

19. On the right you see part of a two-column proof. What statement could be used to fill in the missing space?

A. ∡J≅∡L
B. m∡J + m∡K = 180
C. $\overline{KL} \cong \overline{LM}$
D. $\overline{JL} \cong \overline{JL}$

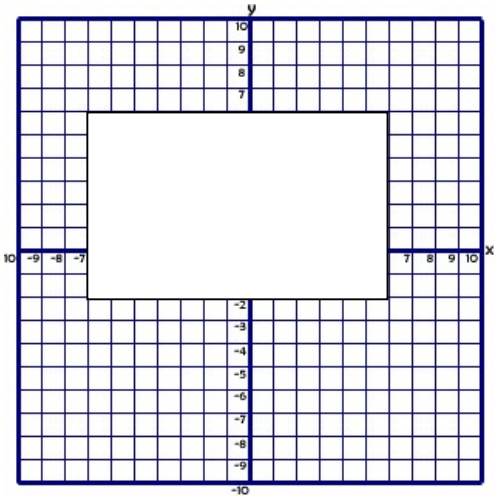


Given: JKLM is a rectangle
Prove: ΔJKL≅ΔLMJ

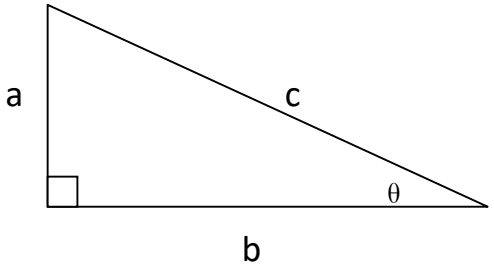
Statements	Reasons
1. JKLM rectangle	given
2. $\overline{JK} \cong \overline{LM}$	Opp sides of rect are ≅
3. $\overline{KL} \cong \overline{JM}$	Opp sides of rect are ≅
4. ?	Reflexive Prop
5. ΔJKL≅ΔLMJ	SSS

20. KLMN is a rectangle located as shown to the right. What is the length of the diagonal to the nearest tenth of a unit?

A. 15.3
B. 16.1
C. 21.0
D. 104.0



21. If the $\sin\theta = n$, which of these expressions would **not** also be equal to n?



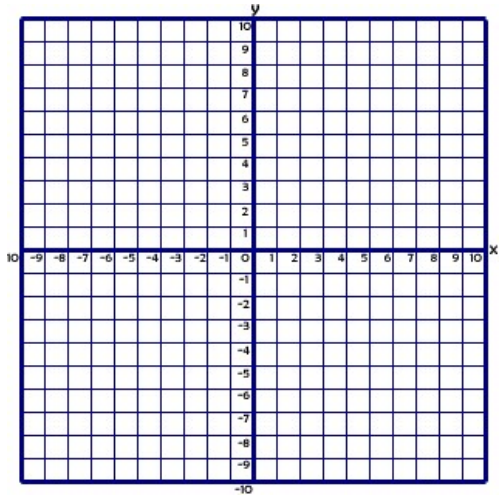
A. $\cos(90-\theta)$

B. $\frac{a}{c}$

C. $\sin\theta$

D. $\cos(\theta-90)$

22. The vertices of a triangle are located at these coordinates: (-1,3), (2,7) and (5,3). What is the area of this triangle to the nearest whole square unit?



A. 8
B. 12
C. 16
D. 24

23. Based on the information provided in the table to the right find this:

P(liking cake | Do not like ice cream)

	Like Cake	Do Not Like Cake	Total
Like Ice Cream	25	9	34
Do Not Like Ice Cream	8	3	11
Total	33	12	45

A. $\frac{33}{45}$

B. $\frac{25}{33}$

C. $\frac{33}{11}$

D. $\frac{8}{11}$

24. Based on the information provided in the table on the right are hand preference and gender independent?

	Left Handed	Right Handed	Total
Male	6	14	20
Femal	12	28	40
Total	18	42	60

A. Yes
B. No
C. We do not have enough information
D. They are mutually exclusive

25. In a room of business people everyone is wearing a suit jacket. 50%of the people are wearing a black jacket, $\frac{2}{5}$ of the people are wearing a brown jacket. If there are 150 people in the room, how many people are wearing something that is not black or is not brown?

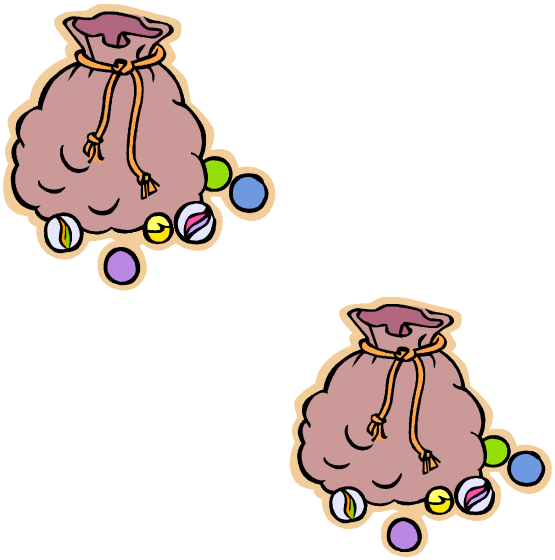
A. 15
B. 60
C. 75
D. 135

26. Based on the table at the right, which o is greater: p(C | D) or p(D | C)?

	C	Not C	Total
D	50	20	70
Not D	5	15	20
Total	55	35	90

A. p(C | D)
B. p(D | C)
C. they are equal
D. they are mutually exclusive

27. You have two bags of marbles. The first bag has 7 red marbles and 3 blue marbles. The second bag has 4 red marble and 6 green marbles. You will randomly select one marble from each bag. What is the probability that you select two red marbles?



A. $\frac{11}{20}$

B. $\frac{11}{100}$

C. $\frac{7}{25}$

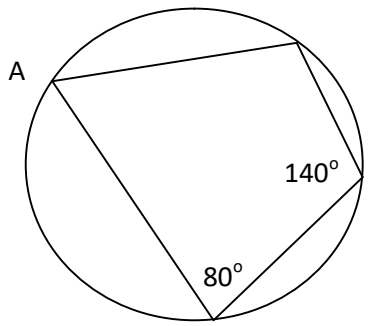
D. $\frac{11}{100}$

28. Which combination of values would fill in this chart correctly?

	Like Video Games	Do Not Like Video Games	Total
Younger than 30	40	5	Y
Older Than 30	X	30	40
Total	50	35	85

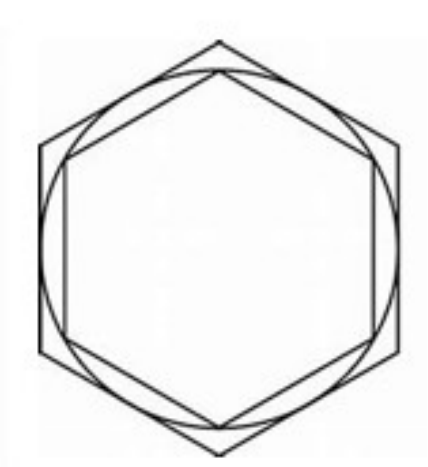
A. x= 10 , y= 35
B. x= 45 , y= 10
C. x= 10, y= 45
D. x= 35, y= 10

29. Based on the diagram to the right, what would the measure of ∡A equal?



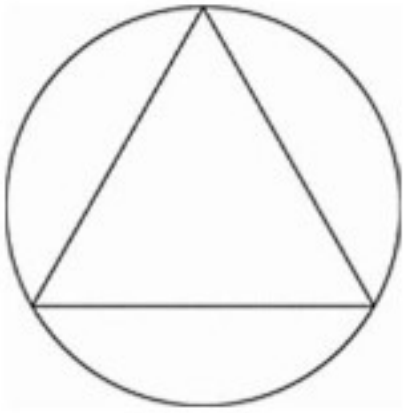
A. 40°
B. 80°
C. 100°
D. 220°

30. A circle has a 50-gon inscribed inside it and a second 50-gon circumscribed about it. Which of these is greater?



A. Perimeter of the inscribed polygon
B. Circumference of the circle
C. Perimeter of the circumscribed polygon
D. They are all equal

31. Equilateral triangle (ΔABC) is inscribed in circle with a radius of 5cm. What is the length of $\overset{\frown}{AB}$?



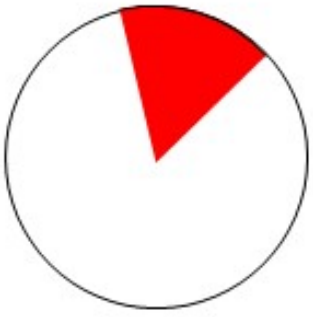
A. $\frac{10\pi}{3} cm$

B. $\frac{5\pi}{3} cm$

C. $\frac{10\pi}{9} cm$

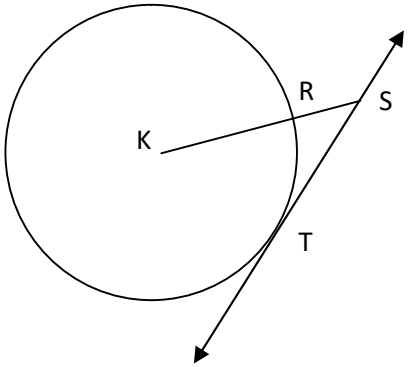
D. $\frac{25\pi}{3} cm$

32. A circle with a radius of 6 feet contains a sector with an arc that is 2π in length. What is the area of the sector in square feet?



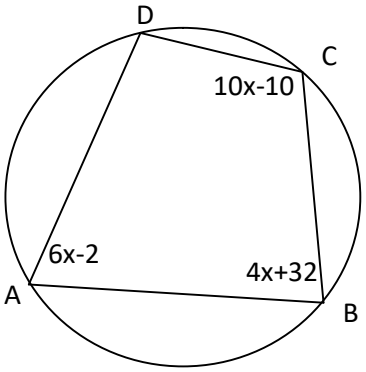
A. 2π
B. 4π
C. 6π
D. 10π

33. Circle K has a radius of 8 inches. The line shown is tangent to the circle at T. If TS = 6 inches, what is the length of RS to the nearest inch?



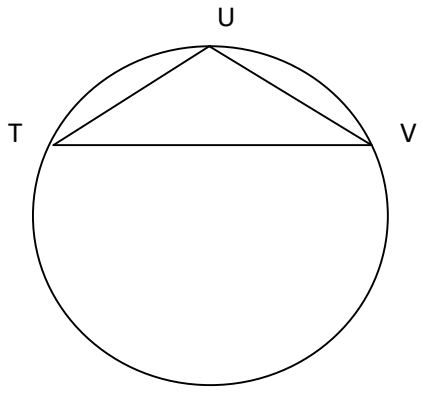
A. 2
B. 6
C. 8
D. 10

34. The diagram to the right shows a quadrilateral inscribed in a circle. What is the measure of $\measuredangle$D to the nearest degree?



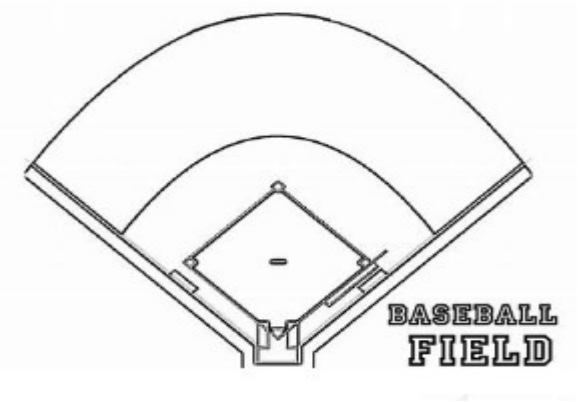
A. 12
B. 70
C. 80
D. 100

35. In the figure to the right ΔTUV is isosceles. If $m\widehat{TV} = 120^o$ and TU = 10 inches, what is the exact value, in inches, of TV?



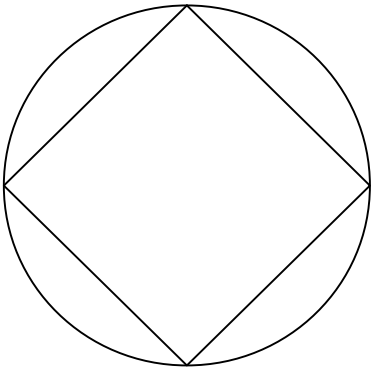
A. 10
B. 20
C. $5\sqrt{3}$
D. $10\sqrt{3}$

36. A local baseball team has a dirt infield and a grass outfield. If the infield runs out 110 feet from home plate and the outfield fence is circular at a distance of 350 feet from home plate, what is the area of the outfield grass to the nearest square foot? (use 3.14 for π)



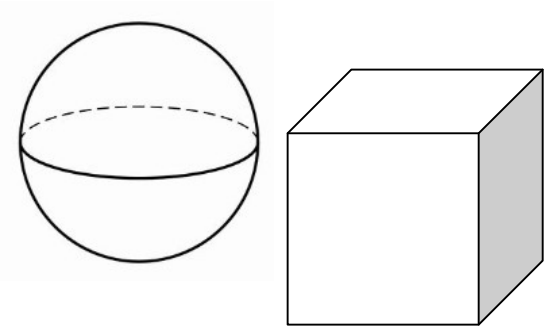
A. 86,664
B. 96,163
C. 346,656
D. 384,650

37. A square is inscribed in a circle with a radius of 8 inches. How long is the side of the square to the nearest tenth of an inch?



A. 1.4
B. 5.0
C. 7.1
D. 20.0

38. What is the volume of the largest sphere that will fit inside a cube that has a volume of 64 cubic inches?



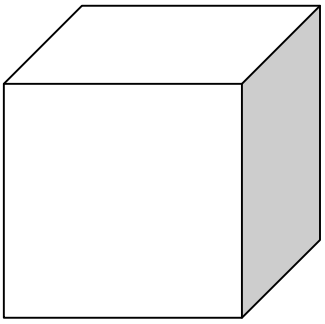
A. $\frac{8\pi}{3} cubic\ inches$

B. $\frac{32\pi}{3} cubic\ inches$

C. $\frac{256\pi}{3} cubic\ inches$

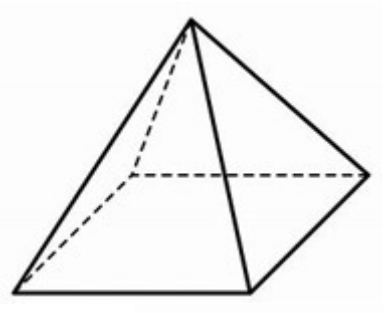
D. $\frac{2048\pi}{3} cubic\ inches$

39. The cube shown to the right has a volume of 50 cubic inches. If all of the dimensions of the cube are tripled what would the new volume be to the nearest cubic inch?



A. 150
B. 450
C. 1,350
D. 22,500

40. A square pyramid has the same height and the same base area as a cube. How does the volume of the pyramid compare to the volume of the cube?



A. They are equal
B. The cube is twice the volume of the pyramid
C. The cube is three time the volume of the pyramid
D. The cube is half the volume of the pyramid