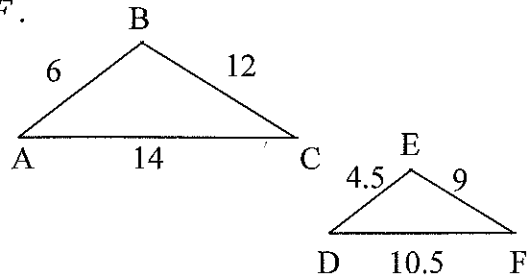


GEOMETRY – 2nd Semester
Final Exam Review Multiple Choice

1. Give the scale factor for the dilation of $\triangle ABC \rightarrow \triangle DEF$.

- A $\frac{3}{4}$
- B 3
- C 2.5
- D $\frac{1}{3}$



2. What is the translation image of $(-3, 5)$ under the translation $(x, y) \rightarrow (x - 3, y + 7)$.

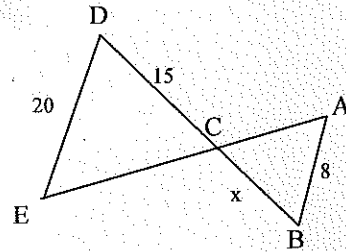
- A $(0, 12)$
- B $(-6, 12)$
- C $(-6, -2)$
- D $(0, -2)$

3. What is the reflection of the image $(-3, -6)$ over the y-axis?

- A $(-3, 6)$
- B $(-6, -3)$
- C $(3, -6)$
- D $(6, -3)$

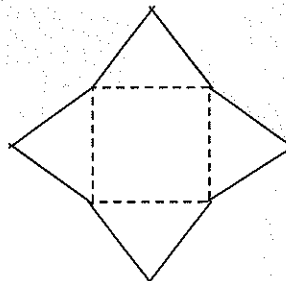
4. If $\overline{AB} \parallel \overline{DE}$, find the value of x in the following image.

- A 3
- B 6
- C 8
- D 12



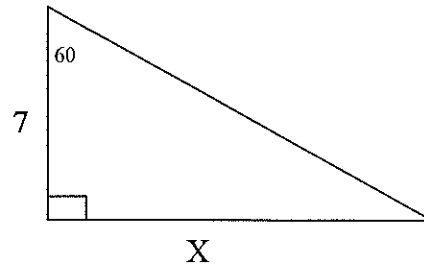
5. Identify the solid formed when the folds are made along the dotted lines from the given net.

- A triangular prism
- B triangular pyramid
- C square pyramid
- D square prism



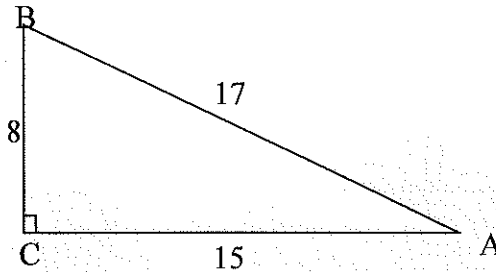
6. Solve for x in simplified radical form.

- A 3.5
- B 14
- C $7\sqrt{3}$
- D $\frac{7}{\sqrt{3}}$



7. Find $\sin A$.

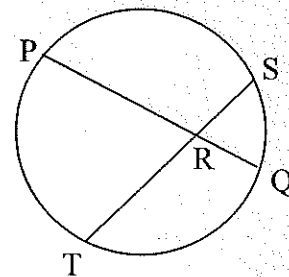
- A $\frac{15}{17}$
- B $\frac{8}{17}$
- C $\frac{15}{8}$
- D $\frac{7}{15}$



8. Given chords \overline{TS} and \overline{PQ} of a circle intersecting at R.

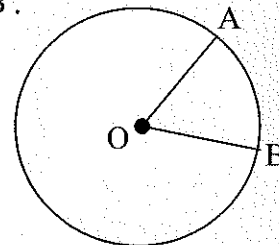
If $m\widehat{TQ} = 46^\circ$ and $m\widehat{PS} = 158^\circ$, then find $m\angle TRQ$.

- A 46°
- B 158°
- C 23°
- D 102°



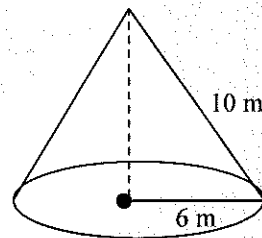
9. In circle O, $OB = 12$ and $m\widehat{AB} = 60^\circ$. Find the length of \widehat{AB} .

- A 2π
- B 4π
- C 24π
- D 60π



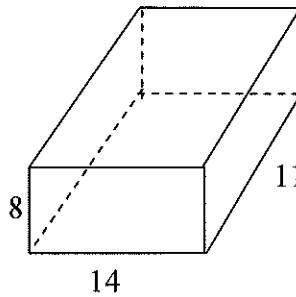
10. Find the total surface area of a cone if the radius is 6m and the slant height is 10m.

- A 36π
- B 60π
- C 72π
- D 96π



11. Find the volume of the right rectangular prism.

- A $33 u^3$
- B $1232 u^3$
- C $154 u^3$
- D $616 u^3$



12. Add the matrices: $\begin{bmatrix} 7 & 0 & 4 \\ -2 & 1 & 5 \end{bmatrix} + \begin{bmatrix} -3 & 5 & 3 \\ 0 & 5 & -5 \end{bmatrix}$

A $\begin{bmatrix} 10 & -5 & 1 \\ -2 & -4 & 10 \end{bmatrix}$

B $\begin{bmatrix} -21 & 0 & 12 \\ 0 & 5 & -25 \end{bmatrix}$

C $\begin{bmatrix} 4 & 5 & 7 \\ -2 & 6 & 0 \end{bmatrix}$

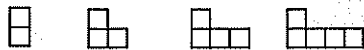
D $\begin{bmatrix} 4 & 5 & 7 \\ -2 & -4 & 10 \end{bmatrix}$

13. For the sequence below, what is the rule to determine the next term in the sequence?

$$\frac{5}{3}, \frac{7}{3}, 3, \frac{11}{3}, \frac{13}{3}, \dots$$

- A Add the previous two terms
- B Multiply the last term by $\frac{2}{3}$
- C Add 2 to the last term
- D Add $\frac{2}{3}$ to the last term

14. If the block pattern continues, how many single blocks will be in the 100th figure?



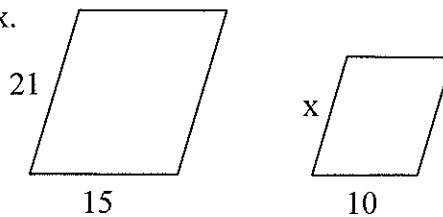
- A 99
- B 100
- C 101
- D 102

15. The algorithm (area of regular base) x (height) / 3 is used to calculate which of the following

- A Volume of a Cone
- B Volume of a Cylinder
- C Surface Area of a Prism
- D Volume of a Regular Pyramid

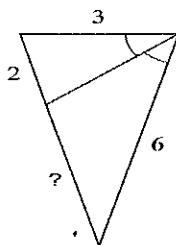
16. The polygons to the right are similar. Find the value of x .

- A 25
- B 23
- C 14
- D 12



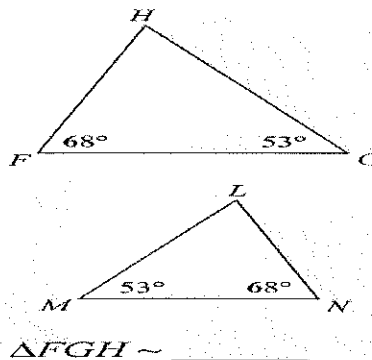
17. Find the value of $?$.

- A 3
- B 4
- C 5
- D 9



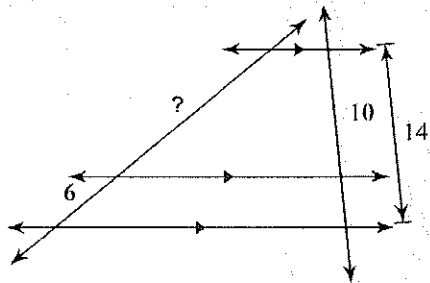
18. Which postulate/theorem proves the triangles are similar and complete the similarity statement.

- A AA, $\triangle LMN$
- B AA, $\triangle NML$
- C SAS, $\triangle LMN$
- D SAS, $\triangle NML$



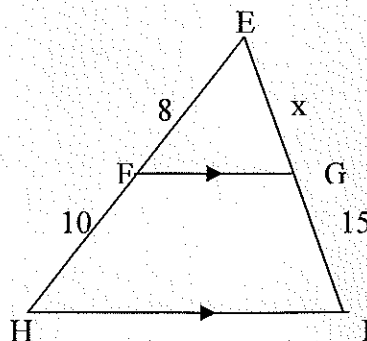
19. Find the value of $?$

- A 8
- B 10
- C 12
- D 15



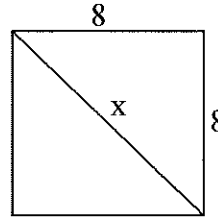
20. If $\overline{FG} \parallel \overline{HI}$, $EF = 8$, $FH = 10$, and $GI = 15$, then find EG .

- A $5\sqrt{3}$
- B 8
- C 12
- D 13



21. Find x in simplified radical form.

- A 64
- B $8\sqrt{2}$
- C 16
- D $\frac{8}{\sqrt{2}}$



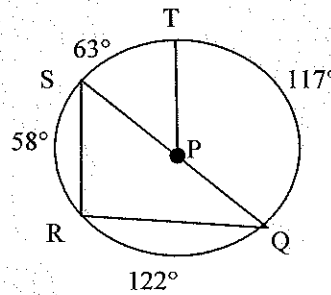
22. At a distance of 36 meters from a tree, the angle from the ground to the top of the tree is 31° . Find the height of the tree.

- A 18.5 m
- B 21.6 m
- C 22.5 m
- D 30.8 m

$\sin 31 = .5150$ $\cos 31 = .8572$ $\tan 31 = .6009$

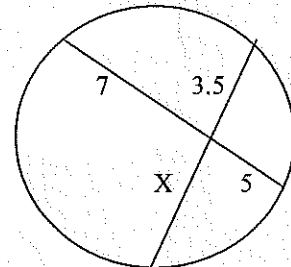
23. Given circle P, find $m \angle QSR$.

- A 58°
- B 61°
- C 122°
- D 244°



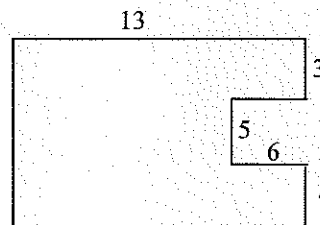
24. Given two intersecting chords within a circle. Find x .

- A 7
- B 10
- C 8.5
- D 5



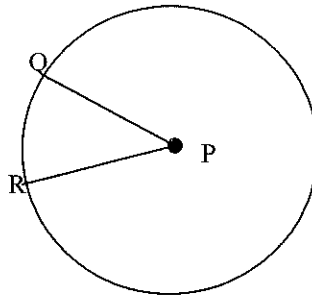
25. Find the area of the figure. Assume right angles.

- A $122 u^2$
- B $126 u^2$
- C $114 u^2$
- D $156 u^2$



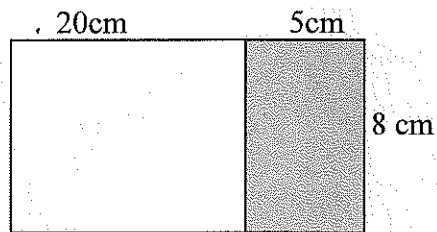
26. In circle P, $PR = 4$ and $m\widehat{QR} = 30^\circ$. Find the area of sector PQR.

- A $\frac{4\pi}{3}$
 B 16π
 C $\frac{16\pi}{3}$
 D $\frac{8\pi}{3}$



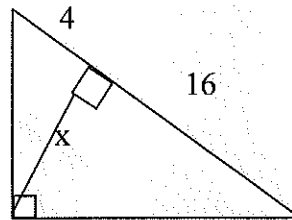
27. A dart is thrown at random at the board shown. If the dart hits the board, find the probability that it will land in the shaded area.

- A $\frac{1}{2}$
 B $\frac{1}{3}$
 C $\frac{1}{4}$
 D $\frac{1}{5}$



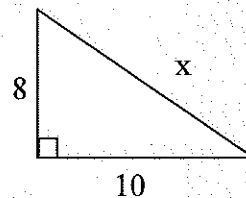
28. In the diagram, find x .

- A 4
 B 8
 C 12
 D 20



29. For the right triangle, solve for x in simplified radical form.

- A 18
 B 14
 C $2\sqrt{41}$
 D $4\sqrt{41}$

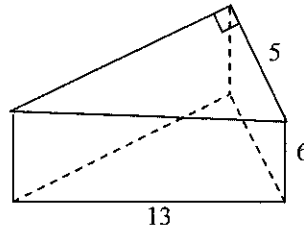


30. The hypotenuse of a 30° - 60° - 90° triangle measures 6. How long is the leg opposite the 60° angle?

- A 3
 B $3\sqrt{3}$
 C $6\sqrt{3}$
 D 12

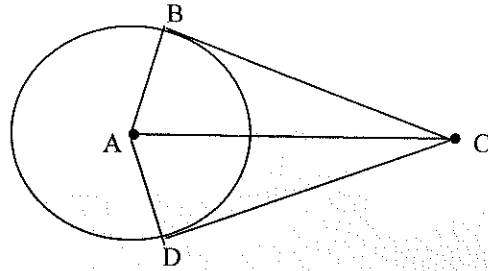
31. Find the volume of the right prism.

- A $180 u^3$
- B $240 u^3$
- C $360 u^3$
- D $390 u^3$



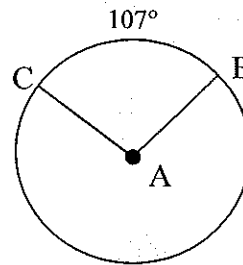
32. Given circle A with tangents BC and DC. If $DC = 20$, Find BC.

- A 20
- B 10
- C 25
- D 15



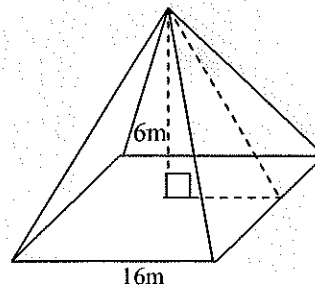
33. Given circle A with $m\widehat{BC} = 107^\circ$, find $m\angle BAC$.

- A 73°
- B 107°
- C 180°
- D 253°



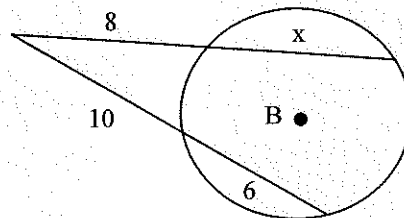
34. Find the total surface area of the pyramid.

- A $96 m^2$
- B $320 m^2$
- C $336 m^2$
- D $576 m^2$



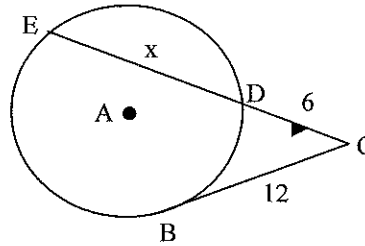
35. Given circle B, find x.

- A 12
- B 10
- C 8
- D 6



36. Given tangent \overline{BC} to circle A, solve for x .

- A 6
- B 12
- C 16
- D 18



37. The volume of a cone is $256\pi \text{ in}^3$ and the height of the cone is 12 in. Find the radius of the cone.

- A 8 in.
- B 16 in.
- C 32 in.
- D 64 in.

38. What is the center and radius of the circle $x^2 + (y - 5)^2 = 36$

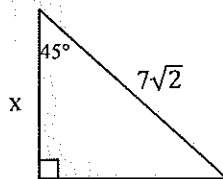
- A center (1, 5) radius 36
- B center (0, -5) radius 6
- C center (0, -5) radius 18
- D center (0, 5) radius 6

39. Find the radius of a circle with a circumference of 36π .

- A 18
- B 6
- C 72
- D 36

40. Find the value of x .

- A 7
- B 14
- C $7\sqrt{2}$
- D $14\sqrt{2}$

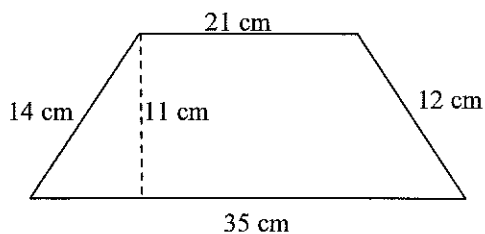


41. Find the area of the triangle if the height is 7 inches and the base is 15 inches long.

- A 52.5 in^2
- B 59.5 in^2
- C 105 in^2
- D 127.5 in^2

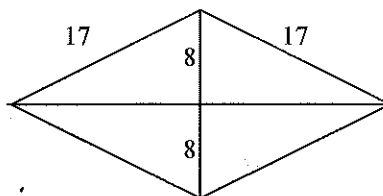
42. Find the area of the trapezoid.

- A 231 cm^2
- B 392 cm^2
- C 308 cm^2
- D 336 cm^2



43. Find the area of the rhombus.

- A 136 u^2
- B 240 u^2
- C 480 u^2
- D 544 u^2

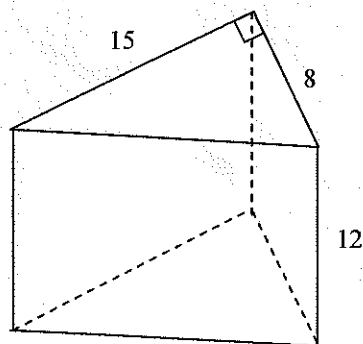


44. Find the area of a regular heptagon if its apothem is 9 and each of its sides is 8.6.

- A $38,7 \text{ u}^2$
- B $77,4 \text{ u}^2$
- C $270,9 \text{ u}^2$
- D $541,8 \text{ u}^2$

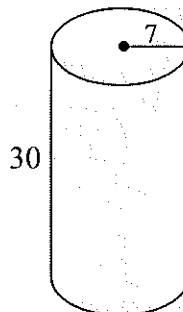
45. Find the total surface area of the prism.

- A 480 u^2
- B 1440 u^2
- C 720 u^2
- D 600 u^2



46. Find the lateral area of the right circular cylinder. Leave answer in π units.

- A 210π
- B 420π
- C 518π
- D 660π



47. Find the volume of the sphere with radius 6 units. Leave answer in π form.

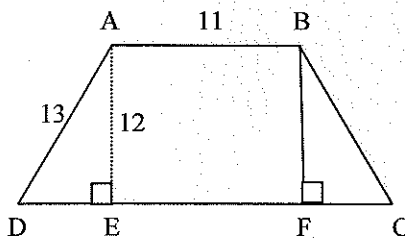
- A $288\pi u^3$
- B $905\pi u^3$
- C $72\pi u^3$
- D $864\pi u^3$

48. The height of a parallelogram is 12 ft and the area is 276 ft^2 . Find the base of the parallelogram.

- A 11.5 ft
- B 16.6 ft
- C 23 ft
- D 46 ft

49. If $\overline{AD} \cong \overline{BC}$ in isosceles trapezoid ABCD, find DC.

- A 16
- B 21
- C 35
- D 36



50. The two polygons are similar. The area of one polygon is given. Find the area of the larger polygon to the nearest 10^{th} .

- A 9 yd^2
- B 14.4 yd^2
- C 24 yd^2
- D 25 yd^2

