TEAM MEMBER #1

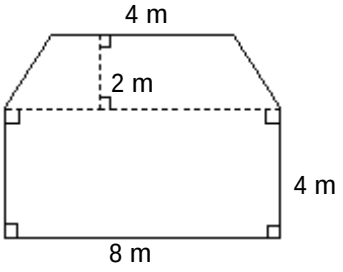
Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

1) A circular walkway has a diameter of 126 m. Approximate the distance around the walkway. Use $\frac{22}{7}$ for π.

A) 396 m B) 198 m C) 49,896 m D) 792 m

Find the area of the geometric figure.

2)



A) 96 sq m B) 40 sq m C) 44 sq m D) 56 sq m

Provide an appropriate response.

3) The diagonals of a ? intersect at their common midpoint.

A) rhombus B) pentagon C) trapezoid D) parallelogram

4) A building is 18 feet tall. Its shadow is 45 feet long. A nearby building is 24 feet tall. Find the length of the shadow of the second building.

A) $\frac{135}{4}$ B) $\frac{48}{5}$ C) 60 D) 1080

Find the area. Leave your answer in terms of pi.

5) A circle with diameter 20 cm

A) 400.00π cm^2 B) 100.00π cm^2 C) 40.00π cm^2 D) 20.00π cm^2

6) What is the angle between the hour and the minute hands if the time is 9:20?

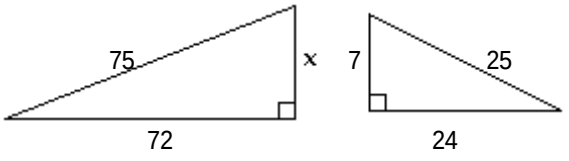
A) 150° B) 204° C) 160° D) 390°

7) Find the surface area of a right rectangular prism 5 ft × 2 ft × 3 ft.

A) 62 ft^2 B) 56 ft^2 C) 31 ft^2 D) 52 ft^2

The two triangles below are similar. Find the missing lengths.

8)



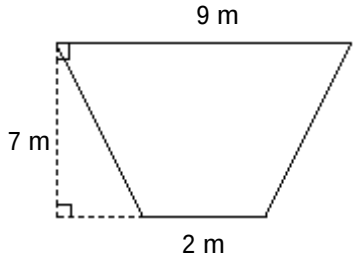
A) x = 12 B) x = 7 C) x = 28 D) x = 21

TEAM MEMBER #2

Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

Find the area of the geometric figure.

9) Trapezoid



A) 38.5 sq m B) 81 sq m C) 77 sq m D) 40.5 sq m

10) Find the volume of a sphere with radius 5.3 in. Use 3.14 for π. Round your answer to the nearest tenth.

A) 623.3 in.^{3} B) 352.0 in.^{3} C) 117.6 in.^{3} D) 88.0 in.^{3}

11) A tree casts a shadow 42 meters long. At the same time, the shadow cast by a vertical 4 meter stick is 8 meters long. Find the height of the tree.

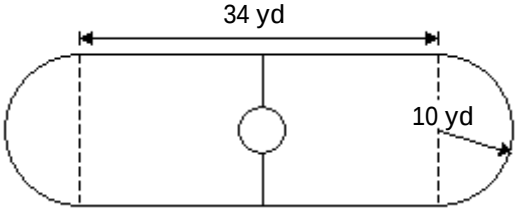
A) $\frac{16}{21}$ B) 21 C) 32 D) 84

Solve.

12) A circular flower garden has a diameter of 41 feet. Approximate the distance around the garden. Use 3.14 for π.

A) 64.37 ft B) 128.74 ft C) 5278.34 ft D) 257.48 ft

13) Find the area of the skating rink. Round to the nearest tenth.



A) 968 sq yd B) 654 sq yd C) 994 sq yd D) 1308 sq yd

Find the area. Leave your answer in terms of pi.

14) A circle with diameter 20.7 in.

A) 20.70π in.^{2} B) 428.49π in.^{2} C) 41.40π in.^{2} D) 107.12π in.^{2}

15) What is the angle between the hour and the minute hands if the time is 7:30?

A) 72° B) 390° C) 45° D) 30°

16) Find the surface area of a right rectangular prism 4 ft × 5 ft × 4 ft.

A) 56 ft^2 B) 120 ft^2 C) 112 ft^2 D) 92 ft^2

TEAM MEMBER #3

Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

Solve the problem.

17) Find the volume of a sphere with radius 2.4 in. Use 3.14 for π. Round your answer to the nearest tenth.

A) 24.1 in.^{3} B) 72.0 in.^{3} C) 18.0 in.^{3} D) 57.9 in.^{3}

18) A lookout tower casts a shadow 200 feet long at the same time that the shadow of a 8 foot truck is 16 feet long. Find the height of the tower.

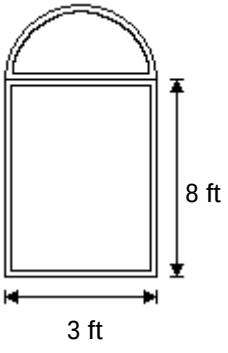
A) 128 B) $\frac{16}{25}$ C) 400 D) 100

Solve.

19) A circular mural has a radius of 107 meters. Approximate the distance around the mural border. Use 3.14 for π.

A) 671.96 ft B) 35,949.86 ft C) 335.98 ft D) 167.99 ft

20) Find the area of the window. Round to the nearest tenth.



A) 52.3 sq ft B) 26.4 sq ft C) 38.1 sq ft D) 31.1 sq ft

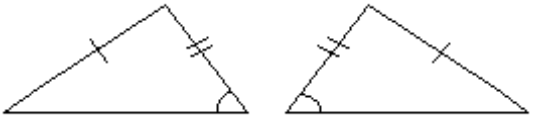
Provide an appropriate response.

21) The unique circle containing the three vertices A, B, and C of a triangle is called the ____?____ of $\triangle ABC$.

A) concurrent circle
B) inscribed circle
C) Fermat circle
D) circumscribing circle

Identify the property that allows you to conclude that the triangles are congruent. Or, if such a conclusion cannot be made, answer "None."

22)



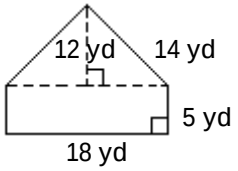
A) SSA B) ASA C) SAS D) None

TEAM MEMBER #4

Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

Find the area.

23)



A) 198 yd^2 B) 162 yd^2 C) 306 yd^2 D) 174 yd^2

Find the area. Leave your answer in terms of pi.

24) A semicircle with diameter 22 in.

A) 121.00π $in.^2$ B) 22.00π $in.^2$ C) 44.00π $in.^2$ D) 60.50π $in.^2$

25) What is the angle between the hour and the minute hands if the time is 7:10?

A) 150° B) 192° C) 270° D) 155°

26) Find the surface area of a right rectangular prism 5 ft × 2 ft × 4 ft.

A) 68 ft^2 B) 56 ft^2 C) 38 ft^2 D) 76 ft^2

27) Find the volume of a sphere with radius 4.1 in. Use 3.14 for π. Round your answer to the nearest tenth.

A) 53.0 $in.^3$ B) 288.5 $in.^3$ C) 212.0 $in.^3$ D) 70.4 $in.^3$

Solve.

28) An inflatable circular pool has a radius of $4\frac{1}{5}$ ft. Approximate the distance around the pool. Use $\frac{22}{7}$ for π.

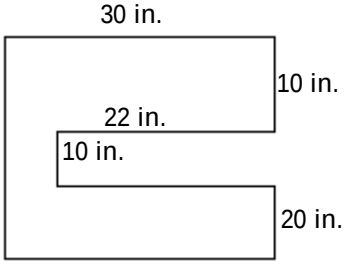
A) $55\frac{11}{25}$ ft B) $26\frac{2}{5}$ ft C) $6\frac{3}{5}$ ft D) $13\frac{1}{5}$ ft

29) A tree casts a shadow 40 meters long. At the same time, the shadow cast by a vertical 5 meter stick is 10 meters long. Find the height of the tree.

A) 50 B) 20 C) 80 D) $\frac{5}{4}$

Find the area of the figure.

30)



A) 320 $in.^2$ B) 900 $in.^2$ C) 660 $in.^2$ D) 980 $in.^2$

TEAM MEMBER #5

Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

Find the area. Leave your answer in terms of pi.

31) A semicircle with radius 3 in.

A) 4.50π in.^{2} B) 9.00π in.^{2} C) 12.00π in.^{2} D) 6.00π in.^{2}

32) What is the angle between the hour and the minute hands if the time is 11:30?

A) 216° B) 510° C) 165° D) 150°

Provide an appropriate response.

33) A point lies on the ? of a line segment if and only if the point is equidistant from the endpoints of the segment.

A) angle bisector B) perpendicular bisector
C) altitude D) trisector

34) Find the surface area of a right rectangular prism 3 ft × 5 ft × 4 ft.

A) 74 ft^2 B) 100 ft^2 C) 94 ft^2 D) 47 ft^2

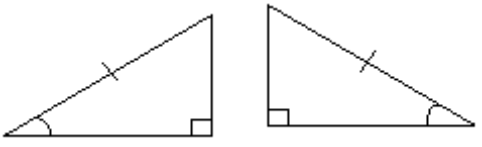
Solve the problem.

35) Find the volume of a sphere with radius 5.2 in. Use 3.14 for π. Round your answer to the nearest tenth.

A) 85.0 in.^{3} B) 588.7 in.^{3} C) 340.0 in.^{3} D) 113.2 in.^{3}

Identify the property that allows you to conclude that the triangles are congruent. Or answer "None".

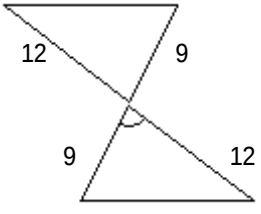
36)



A) None B) AAS C) ASA D) SAS

Identify the property that allows you to conclude that the triangles are congruent. Or, if such a conclusion cannot be made, answer "None."

37)

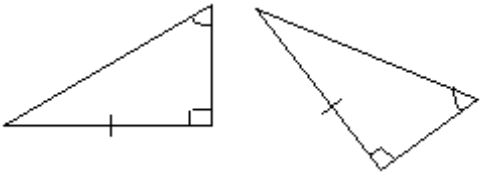


A) None B) ASA C) SSS D) SAS

TEAM MEMBER #6

Select the letter of the most appropriate answer and shade in the corresponding region on the answer sheet.

38)



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

Answer Key
Testname: RELAYS 18 (GEOMETRY TEAM)

1) A
2) C
3) A
4) C
5) B
6) C
7) A
8) D
9) A
10) A
11) B
12) B
13) C
14) D
15) C
16) C
17) D
18) D
19) A
20) D
21) D
22) D
23) A
24) D
25) D
26) D
27) B
28) B
29) B
30) D
31) A
32) C
33) B
34) C
35) B
36) B
37) D
38) B