

Select the letter of the most appropriate answer and fully shade in the corresponding region on the answer sheet. If no answer seems appropriate then fully shade in region E on the answer sheet.

Use symbols to name the figure. If more than one symbol is possible, give all possible names.

1)



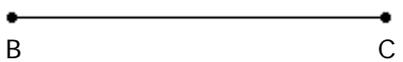
- A) \overrightarrow{BM} B) \overline{BM} or \overline{MB} C) \overrightarrow{MB} D) \overleftrightarrow{BM} or \overleftrightarrow{MB}

2)



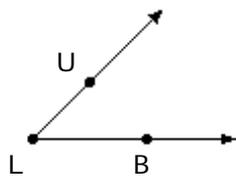
- A) \overrightarrow{LS} B) \overleftrightarrow{SL} or \overleftrightarrow{LS} C) \overrightarrow{SL} D) \overline{SL} or \overline{LS}

3)



- A) \overrightarrow{BC} B) \overrightarrow{CB} C) \overline{BC} or \overline{CB} D) \overleftrightarrow{BC} or \overleftrightarrow{CB}

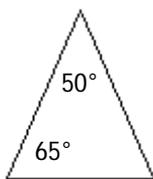
4)



- A) $\angle L$, $\angle ULB$ B) $\angle L$, $\angle LUB$, $\angle LBU$ C) $\angle L$, $\angle ULB$, $\angle BLU$ D) $\angle L$, $\angle LUB$

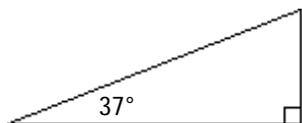
Find the missing angle or angles.

5)



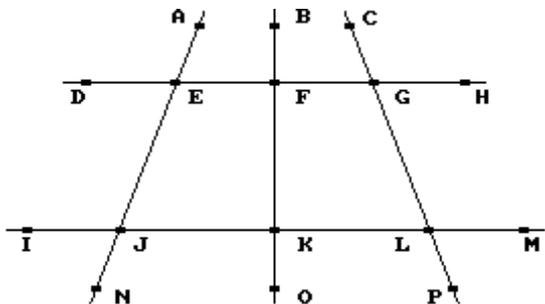
- A) 57° B) 65° C) 50° D) 75°

6)



- A) 37° B) 63° C) 53° D) 45°

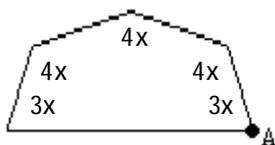
Refer to the figure to answer the question. Line DH is parallel to line IM. Line BO is perpendicular to line DH.



- 7) $m\angle JN$ is 52° . What is the measure of $\angle DEA$?
 A) 38° B) 52°
 C) Cannot be determined D) 128°
- 8) $m\angle JN$ is 57° . What is the measure of $\angle DEJ$?
 A) 33° B) 123°
 C) 57° D) Cannot be determined
- 9) Which of the following is a true statement?
 A) $m\angle PLM + m\angle LGH = 180^\circ$ B) $\angle FGL$ and $\angle GLK$ are supplementary.
 C) $\angle FGL$ and $\angle LGH$ are complementary. D) $m\angle JEF = m\angle LGH$
- 10) $m\angle JN$ is 55° . $m\angle JN = m\angle PLM$. What is the measure of $\angle KLG$?
 A) 125° B) Cannot be determined
 C) 35° D) 55°

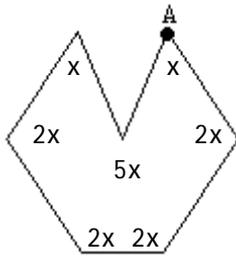
Determine the measure of the interior angle at vertex A.

11)



- A) 150 B) 50 C) 30 D) 90

12)



- A) 84 B) 168 C) 60 D) 120

Answer the question.

13) The central angle of a regular polygon is an angle with vertex at the center of the polygon.

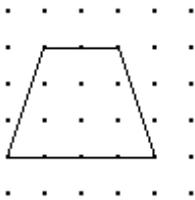
Number of sides:	4	5	6	8
Central angle:	90°	72°	60°	45°

What is the measure of the exterior angle of a regular polygon with 20 sides?

- A) 20° B) 16° C) 21.6° D) 18°

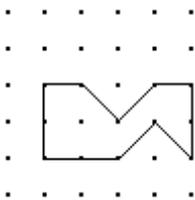
Provide an appropriate response.

14) Find the area of the lattice polygon.



- A) 6 B) 18 C) 12 D) 9

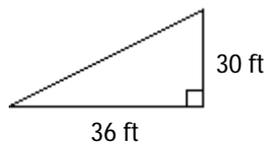
15) Find the area of the lattice polygon.



- A) 8 B) 12 C) 2 D) 6

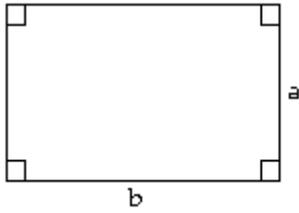
Find the area.

16)



- A) 270 ft^2 B) 1080 ft^2 C) 540 ft^2 D) 450 ft^2

17)



$a = 7.0 \text{ ft}$, $b = 8.0 \text{ ft}$

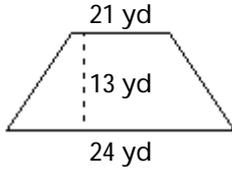
A) 112 ft^2

B) 15 ft^2

C) 28 ft^2

D) 56 ft^2

18)



24 yd
Trapezoid

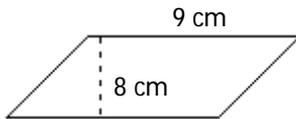
A) 292.5 yd^2

B) 585 yd^2

C) 252 yd^2

D) 156 yd^2

19)



Parallelogram

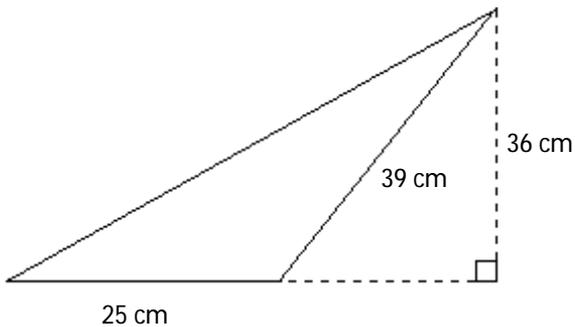
A) 72 cm^2

B) 64 cm^2

C) 81 cm^2

D) 70 cm^2

20)



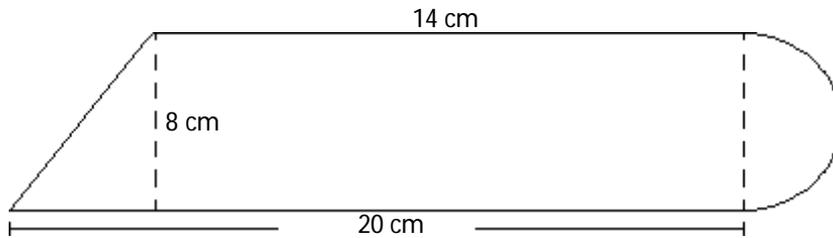
A) 648 cm^2

B) 450 cm^2

C) 702 cm^2

D) 900 cm^2

21)



A) 161.1 cm^2

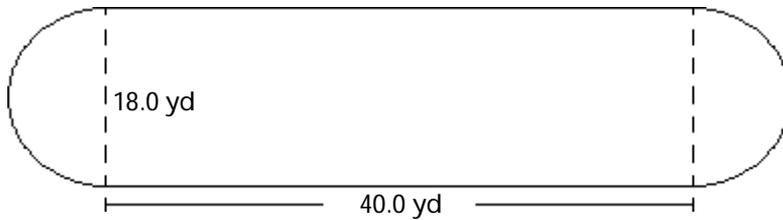
B) 185.1 cm^2

C) Not enough data

D) 186.2 cm^2

Solve the problem.

- 22) Find the area enclosed by the track shown above. Use 3.14 as an approximation for π and round to the nearest tenth.



- A) Not enough data B) 776.5 yd^2 C) 847.2 yd^2 D) 974.3 yd^2

Solve the problem. Use 3.14 for π and round to the nearest tenth.

- 23) A wicker basket has a circular rim with a diameter of 11 inches. How many inches of ribbon are needed to go once around the rim?

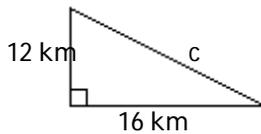
- A) 121 in B) 34.5 in C) 69.1 in D) 32.5 in

- 24) The outfield wall in a baseball park is in the shape of a quarter circle. If the radius of the circle is 10 feet, how long is the wall?

- A) 15.7 ft B) 7.9 ft C) 13.7 ft D) 31.4 ft

Find the unknown length in the right triangle.

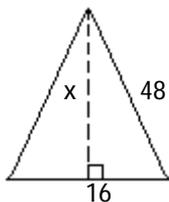
25)



- A) $c = 14 \text{ km}$ B) $c = 20 \text{ km}$ C) $c = 40 \text{ km}$ D) $c = 19 \text{ km}$

Find x in the figure.

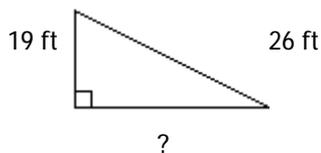
26)



- A) $32\sqrt{2}$ B) $8\sqrt{35}$ C) $8\sqrt{37}$ D) $16\sqrt{10}$

Solve the problem.

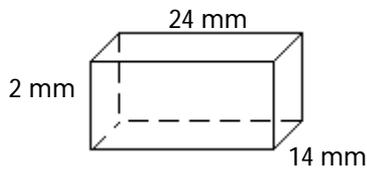
- 27) Below is a diagram of a water slide. The slide is 26 ft long. The ladder leading to the slide is 19 ft long. How far is it from the end of the slide to the foot of the ladder? Round your answer to the nearest thousandth if necessary



- A) 17.748 ft B) 8.874 ft C) 22.5 ft D) 157.5 ft

Find the volume of the solid. Round to two decimal places when necessary.

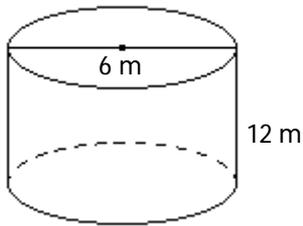
28) Right rectangular prism



- A) 824 mm^3 B) 672 mm^3 C) 56 mm^3 D) 412 mm^3

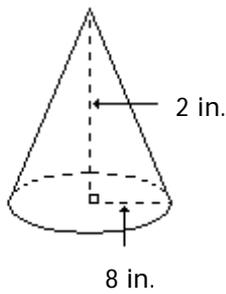
Find the volume.

29) Find the volume of the right circular cylinder. Use 3.14 for π and round to the nearest hundredth, if necessary.



- A) 339.12 m^3 B) 226.08 m^3 C) 1356.48 m^3 D) 113.04 m^3

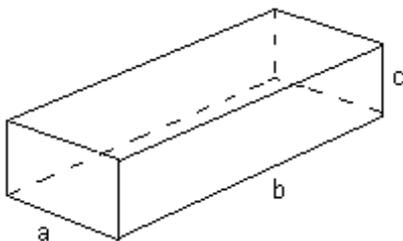
30) Find the volume of the right circular cone pictured above. Use 3.14 for π . Round to the nearest whole number.



- A) 201 in.^3 B) 33 in.^3 C) 134 in.^3 D) 268 in.^3

Find the surface area of the solid.

31) Right rectangular prism

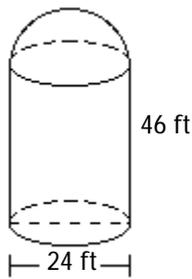


$a = 2 \text{ ft}$, $b = 4 \text{ ft}$, $c = 3 \text{ ft}$

- A) 26 ft^2 B) 52 ft^2 C) 40 ft^2 D) 56 ft^2

Find the surface area of the figure. Round your answer to the nearest whole number, if appropriate.

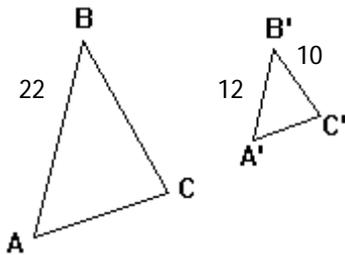
32) Cylindrical grain silo with hemispherical top (do not include the floor of the silo)



- A) 3921 ft² B) 5278 ft² C) 4373 ft² D) 24,429 ft²

Solve the problem.

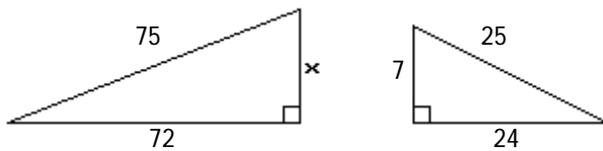
33) Find the scale factor of the size transformation shown below.



- A) $\frac{6}{11}$ B) $\frac{6}{5}$ C) $\frac{11}{5}$ D) $\frac{11}{6}$

A pair of similar triangles is shown. Find the measure of the segment marked with the letter x.

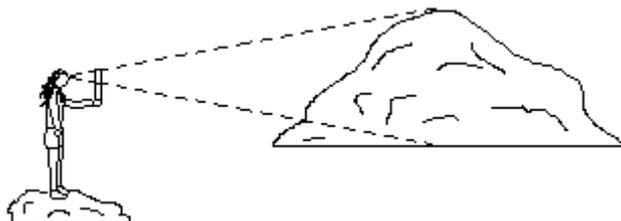
34)



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

Solve the problem.

35) By holding a ruler 3 feet in front of her eyes as illustrated in the diagram, Carla sees that the top and bottom points of a vertical cliff face line up with marks separated by 3.5" on the ruler. According to the map, Carla is about a half mile from the cliff. What is the approximate height of the cliff rounded to the nearest foot? Recall that a mile is 5280 feet.



- A) 257 ft B) 3080 ft C) 128 ft D) 513 ft