

Example Items

Geometry

Geometry Example Items are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

*The specific part of an SE that an Example Item measures is **NOT** necessarily the only part of the SE that is assessed on the ACP.* None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

(1) Download the [Example Feedback Form](#) and email it. The form is located on the homepage of the Assessment website (assessment.dallasisd.org).

OR

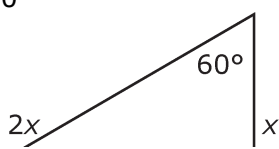
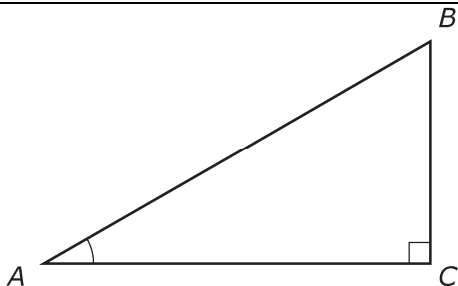
(2) To submit directly: Login to the [Assessment website](#). Under “News” in the left-hand column, click on “Sem 2 Example Items Download.” Above the subjects, click on “Example Feedback Form.”

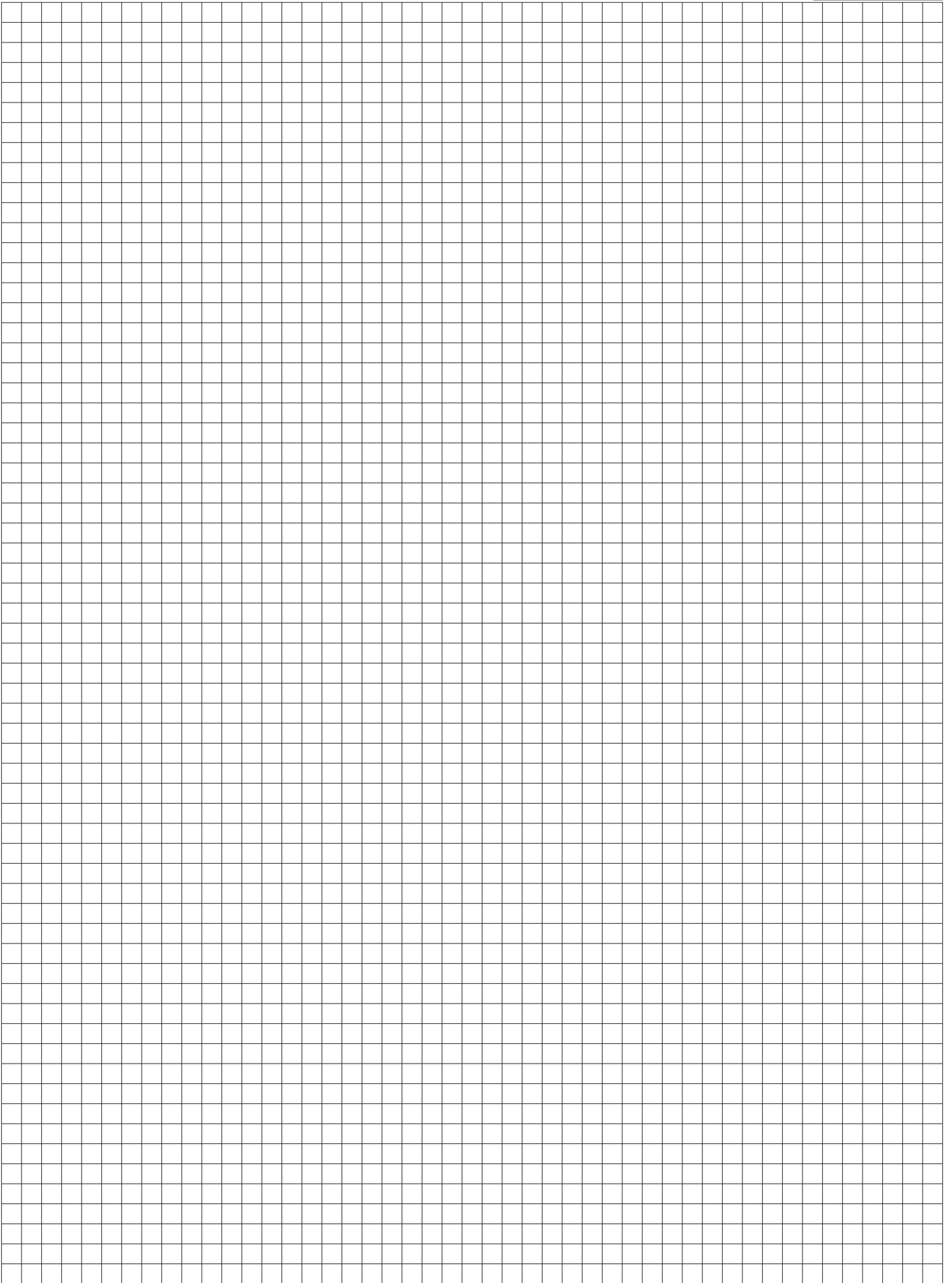
Second Semester
2017–2018
Code #: 1101

ACP Formulas
Geometry/Geometry PAP
2017-2018

Perimeter and Circumference			
Square:	$P = 4s$	Rectangle:	$P = 2\ell + 2w$
Circle:	$C = 2\pi r$ $C = \pi d$	Arc Length:	$\ell = \frac{x}{360^\circ} \cdot 2\pi r$
Area			
Square:	$A = s^2$	Triangle:	$A = \frac{1}{2}bh$
Rectangle:	$A = \ell w$ $A = bh$	Regular Polygon:	$A = \frac{1}{2}aP$
Parallelogram:	$A = bh$	Circle:	$A = \pi r^2$
Rhombus:	$A = \frac{1}{2}d_1d_2$ $A = bh$	Sector of a Circle:	$A = \frac{x}{360^\circ} \cdot \pi r^2$
Trapezoid:	$A = \frac{1}{2}(b_1 + b_2)h$		
Lateral Surface Area			
Prism:	$L = Ph$	Pyramid:	$L = \frac{1}{2}P\ell$
Cylinder:	$L = 2\pi rh$	Cone:	$L = \pi r\ell$
Total Surface Area			
Prism:	$S = Ph + 2B$	Pyramid:	$S = \frac{1}{2}P\ell + B$
Cylinder:	$S = 2\pi rh + 2\pi r^2$	Cone:	$S = \pi r\ell + \pi r^2$
Sphere:	$S = 4\pi r^2$	Area of a Sector:	$A = \frac{x}{360^\circ} \cdot \pi r^2$
Volume			
Rectangular Prism:	$V = \ell wh$	Cube:	$V = s^3$
Prism:	$V = Bh$	Pyramid:	$V = \frac{1}{3}Bh$
Cylinder:	$V = \pi r^2 h$ $V = Bh$	Cone:	$V = \frac{1}{3}Bh$ $V = \frac{1}{3}\pi r^2 h$
Sphere:	$V = \frac{4}{3}\pi r^3$		
Polygons			
Interior Angle Sum:	$S = 180(n - 2)$	Measure of Exterior Angle:	$\frac{360^\circ}{n}$

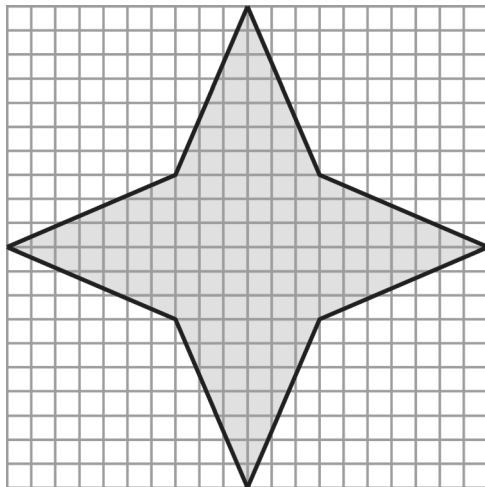
ACP Formulas
Geometry/Geometry PAP
2017-2018

Coordinate Geometry	
Midpoint:	$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
Distance:	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Slope of a Line:	$m = \frac{y_2 - y_1}{x_2 - x_1}$
Slope-Intercept Form of a Line:	$y = mx + b$
Point-Slope Form of a Line:	$y - y_1 = m(x - x_1)$
Standard Form of a Line:	$Ax + By = C$
Equation of a Circle:	$(x - h)^2 + (y - k)^2 = r^2$
Trigonometry	
Pythagorean Theorem:	$a^2 + b^2 = c^2$
Trigonometric Ratios:	$\sin A = \frac{\text{opposite leg}}{\text{hypotenuse}}$ $\cos A = \frac{\text{adjacent leg}}{\text{hypotenuse}}$ $\tan A = \frac{\text{opposite leg}}{\text{adjacent leg}}$
Special Right Triangles:	<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> $30^\circ - 60^\circ - 90^\circ$  </div> <div> $45^\circ - 45^\circ - 90^\circ$  </div> </div>
Law of Sines:	$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$
Law of Cosines:	$a^2 = b^2 + c^2 - 2bc \cos A$ $b^2 = a^2 + c^2 - 2ac \cos B$ $c^2 = a^2 + b^2 - 2ab \cos C$
Probability	
Permutations:	${}_n P_r = \frac{n!}{(n-r)!}$
Combinations:	${}_n C_r = \frac{n!}{(n-r)!r!}$



EXAMPLE ITEMS Geometry, Sem 2

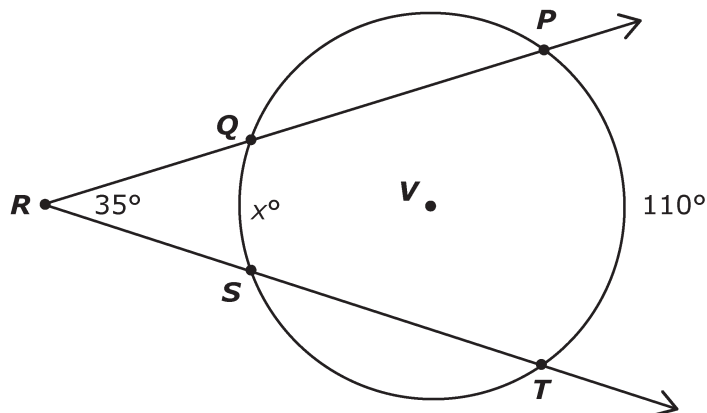
1 A composite figure is shown on the coordinate grid.



What is the total area of this composite figure?

- A 36 square units
- B 84 square units
- C 120 square units
- D 204 square units

2 Circle V is shown.

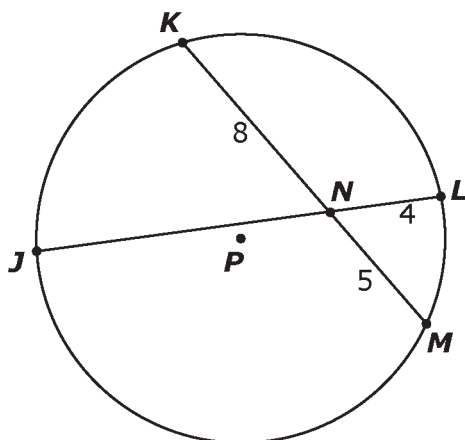


Based on the information in the diagram, what is the measure of \widehat{QS} ?

- A 40°
- B 72.5°
- C 75°
- D 92.5°

EXAMPLE ITEMS Geometry, Sem 2

- 3 \overline{KM} and \overline{JL} are chords of circle P .



Based on the information in the diagram, what is the length of \overline{JL} ?

+	0	0	0	0	0	0	0
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

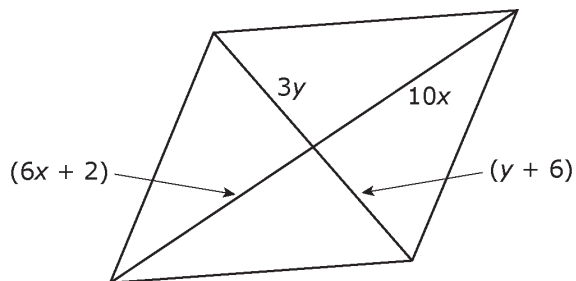
Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

- 4 A plane intersects a three-dimensional figure and is perpendicular to its base. If the intersection is a rectangle, which three-dimensional figure is intersected by the plane?

- A Cone
- B Cylinder
- C Sphere
- D Square pyramid

EXAMPLE ITEMS Geometry, Sem 2

- 5** Tamika is making a flag design in the shape of a parallelogram.



Which x - and y -values must she use in order to guarantee that the flag is in the shape of a parallelogram?

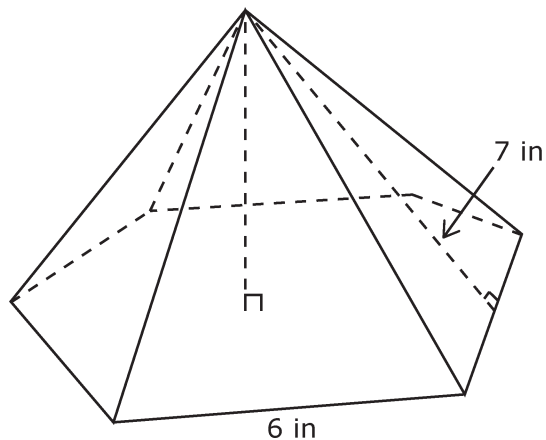
- A** $x = 3$
 $y = 2$
- B** $x = 3$
 $y = 3$
- C** $x = 3$
 $y = \frac{1}{2}$
- D** $x = \frac{1}{2}$
 $y = 3$
- 6** Matt has a standard deck of 52 playing cards. What is the probability that Matt draws two face cards without replacement?

- A** $\frac{33}{676}$
- B** $\frac{11}{221}$
- C** $\frac{9}{169}$
- D** $\frac{3}{13}$

EXAMPLE ITEMS Geometry, Sem 2

7

A regular hexagonal pyramid is shown.



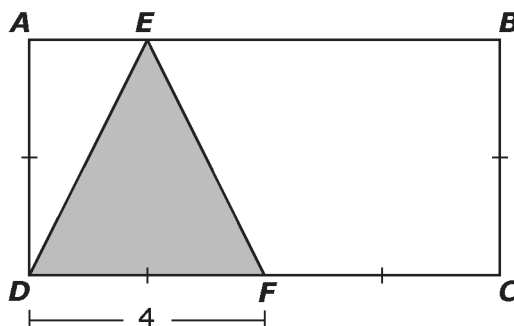
Based on the information in the diagram, what is the total surface area of the pyramid to the nearest hundredth of a square inch?

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

+	-	-	-	-	-	-	-	-
-	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9

EXAMPLE ITEMS Geometry, Sem 2

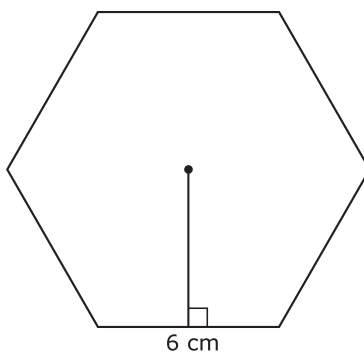
- 8 In rectangle $ABCD$, \overline{BC} , \overline{CF} , \overline{FD} , and \overline{AD} are congruent.



What is the probability that a point chosen at random lies the shaded region?

- A $\frac{1}{8}$
- B $\frac{1}{4}$
- C $\frac{1}{3}$
- D $\frac{1}{2}$

- 9 Jaxon drew a regular hexagon as shown.



Based on the information in the diagram, what is the approximate area of Jaxon's hexagon?

- A 7.8 cm^2
- B 15.6 cm^2
- C 54.0 cm^2
- D 93.5 cm^2

EXAMPLE ITEMS Geometry, Sem 2

- 10** Circle M is shown on the coordinate grid.

Which equation represents circle M ?

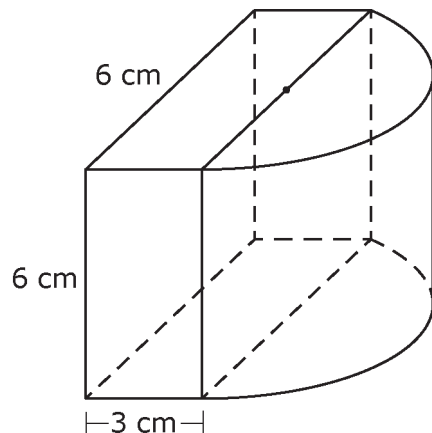
- A** $(x - 4)^2 + (y + 3)^2 = 25$
- B** $(x + 4)^2 + (y - 3)^2 = 25$
- C** $(x - 3)^2 + (y + 4)^2 = 25$
- D** $(x + 3)^2 + (y - 4)^2 = 25$

- 11** Francesca has a bag that contains 3 blue marbles, 6 purple marbles, 4 green marbles, and 5 orange marbles. What is the probability that Francesca draws a green marble, and then an orange marble, without replacement?

- A** $\frac{20}{81}$
- B** $\frac{5}{81}$
- C** $\frac{10}{153}$
- D** $\frac{79}{153}$

EXAMPLE ITEMS Geometry, Sem 2

12 The composite figure is created by combining a rectangular prism with a semi-cylinder.



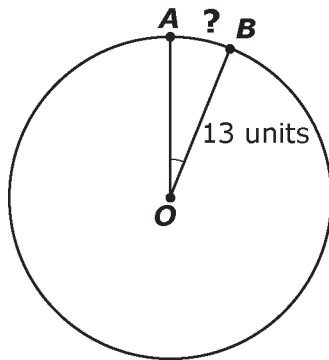
Based on the information in the diagram, what is the volume of this composite figure to the nearest cubic centimeter?

+	•	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

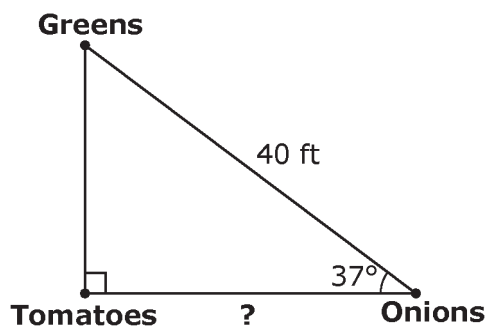
EXAMPLE ITEMS Geometry, Sem 2

- 13 In circle O , $m\angle AOB = 22^\circ$.



Based on this information, what is the length of \widehat{AB} , in terms of π ?

- A 26π units
- B $\frac{1859}{180}\pi$ units
- C $\frac{13}{22}\pi$ units
- D $\frac{143}{90}\pi$ units
- 14 Michelle built a triangular garden in her yard as shown in the diagram. The fence that runs from the greens section to the onions section is 40 feet long and forms a 37° angle with the fence connecting the tomatoes and onions.



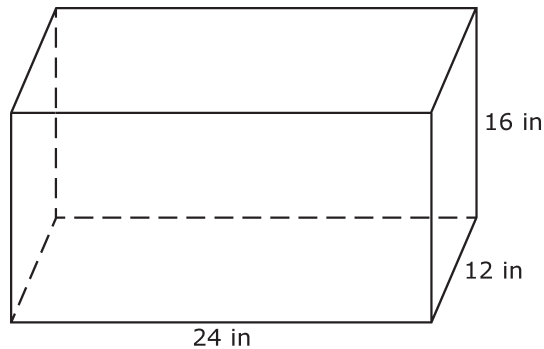
About how long is the tomatoes-onions fence?

- A 24 feet
- B 30 feet
- C 32 feet
- D 50 feet

EXAMPLE ITEMS Geometry, Sem 2

15

A rectangular prism is shown.

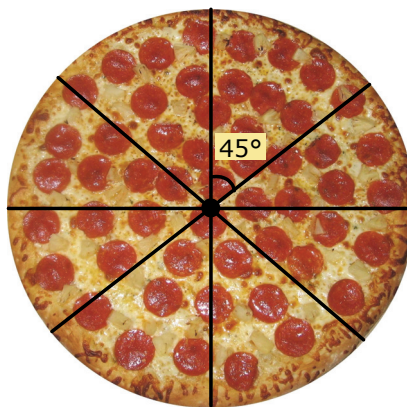


If the prism is dilated by a scale factor of $\frac{1}{4}$, which statement is true?

- A** The surface area of the new prism is $\frac{1}{64}$ the surface area of the original prism.
- B** The surface area of the new prism is $\frac{1}{16}$ the surface area of the original prism.
- C** The surface area of the new prism is $\frac{1}{8}$ the surface area of the original prism.
- D** The surface area of the new prism is $\frac{1}{4}$ the surface area of the original prism.

16

A pizza was cut into 8 equal slices as shown. Leslie ate 5 slices.

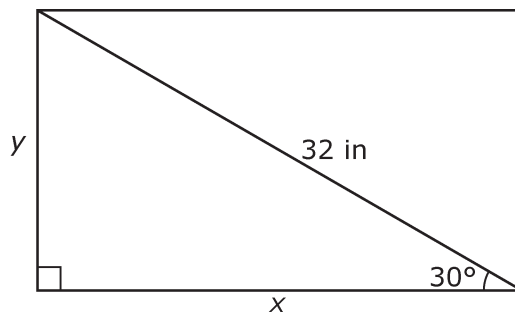


If the diameter of the pizza was 16 inches, what was the area of the pizza that Leslie ate?

- A** 25.1 square inches
- B** 78.5 square inches
- C** 125.7 square inches
- D** 201.1 square inches

EXAMPLE ITEMS Geometry, Sem 2

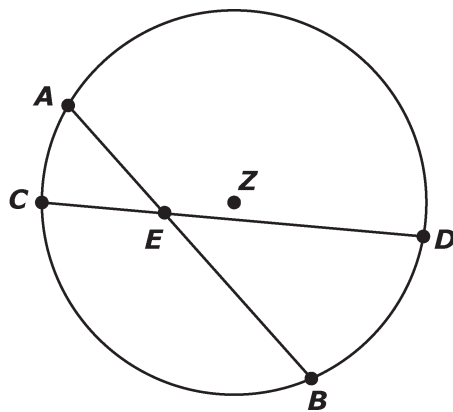
- 17 A rectangular television screen has a diagonal measurement of 32 inches.



Based on the information in the diagram, what are the approximate length, x , and width, y , of the television?

- A $x = 27.7$ inches
 $y = 16.0$ inches
- B $x = 22.6$ inches
 $y = 16.0$ inches
- C $x = 18.5$ inches
 $y = 4.9$ inches
- D $x = 15.1$ inches
 $y = 10.7$ inches

- 18 In circle Z , $AE = x$, $EB = (x + 10)$, $CE = (x + 4)$, and $ED = (x + 5)$.



Based on this information, what is the length of \overline{AB} ?

- A 20
- B 30
- C 49
- D 50

