Math

EoT3 Exam Coverage

Grade 7 (Elite)

Teacher :

Souad Atef
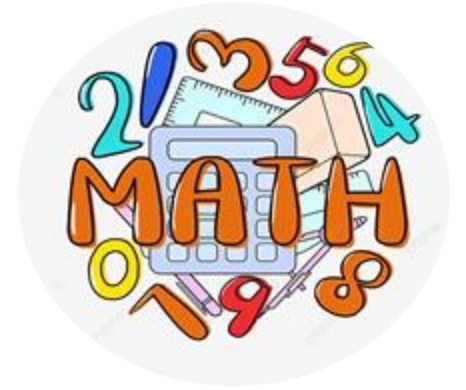
Part (1)
10 main questions
3 Marks per main question
MCQ

Quick Review

Example 1
Name segments and rays.

Name the figures.

A   B   B   C

The figure on the left has two endpoints, A and B. The name of the figure is segment AB or segment BA.

The figure on the right has one endpoint, B, and goes on forever in the other direction. The name of the figure is ray BC.
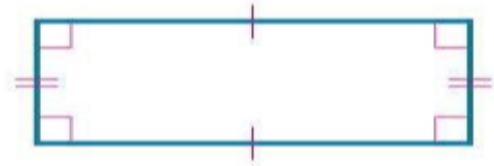
Quick Check

1. Name one segment and one ray.

M   N   P

Example 2
Identify two-dimensional figures.

Identify the figure by its sides and angles.

The figure has 4 sides and 4 angles. The 4 angles are right angles. Both pairs of opposite sides are parallel. The figure is a rectangle.

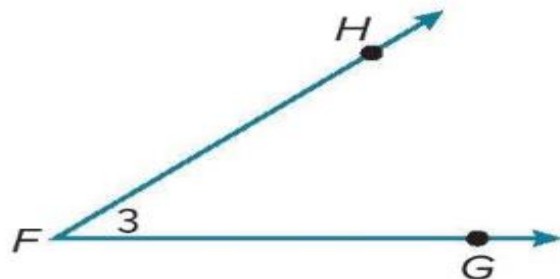**2.** Identify the figure that represents the top of the table shown.
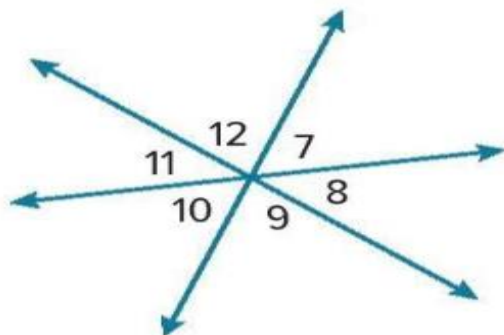
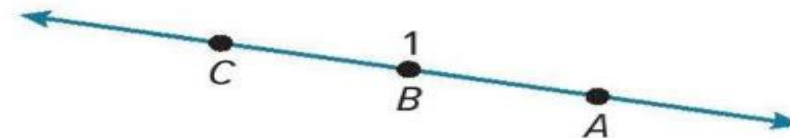**1.** Name the angle in four ways. **(Example 1)**

2. Name the angle in four ways. **(Example 1)**

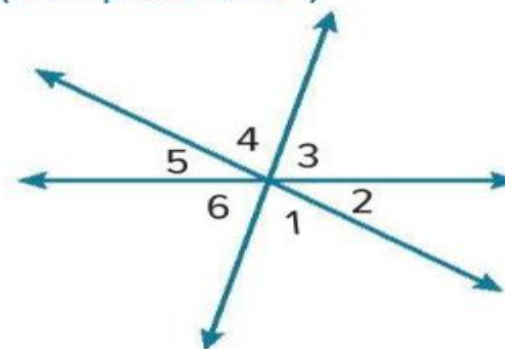**3.** Refer to the diagram below. Identify three pairs of vertical angles. Name all the angles that are adjacent to ∠10. **(Examples 2 and 4)**

4. Identify three pairs of vertical angles. Name all the angles that are adjacent to ∠3. **(Examples 2 and 4)**

Give the measure of the angle that is complementary to the given angle. (Example 1)

1.

45°

2.

20°

3.

54°
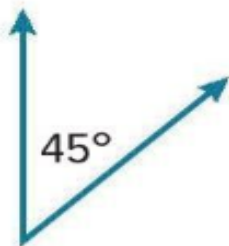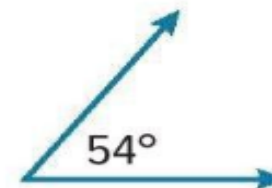
Give the measure of the angle that is supplementary to the given angle. (Example 3)

4.

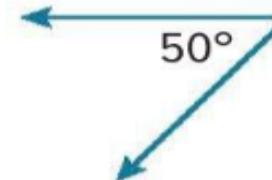

128°

5.

160°

6.

50°

Quick Review

Example 1

Find area of triangles.

Find the area of the triangle.

3 ft

6 ft
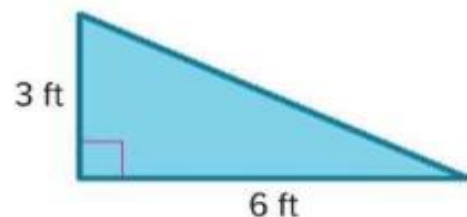
$A = \frac{1}{2}bh$ Area of a triangle

$A = \frac{1}{2}(6)(3)$ Replace b with 6 and h with 3.
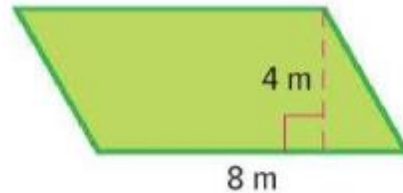
$A = 9$ Simplify.

The area of the triangle is 9 square feet.

Quick Check

1. A road sign in the shape of a triangle has a base length of 18 inches and a height of 16 inches. What is the area of the road sign?

Example 2

Find area of parallelograms.

Find the area of the parallelogram.

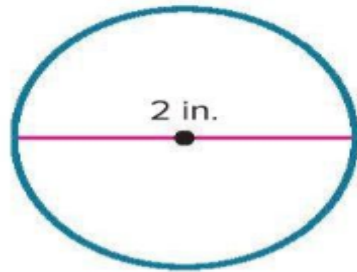
4 m

8 m

$A = bh$ Area of a parallelogram

$A = (8)(4)$ Replace b with 8 and h with 4.

$A = 32$ Simplify.

The area of the parallelogram is 32 square meters.

2. A banner in the shape of a parallelogram has a length of 3.5 feet and a height of 2.5 feet. What is the area of the banner?

1. Find the circumference of the watch face. Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 1)**

2 in.

2. A circular fence is being used to surround a dog house. How much fencing is needed to build the fence? Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 1)**

14.5 ft

| 7 | Find the circumferences of circles given the radius or diameter using the formulas for the circumference of a circle and find the radius or diameter of a circle given its circumference. | 1-4 | Page 765 |
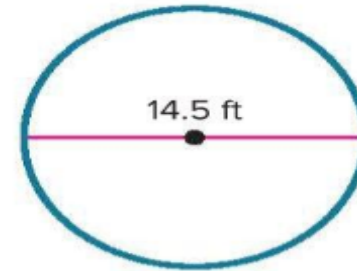
3. Find the circumference of a circle with a radius of $31\frac{1}{2}$ yards. Use 3.14 for π. Write your answer as a decimal rounded to the nearest hundredth. (Example 2)

4. Find the circumference of a circle with a radius of 4.4 inches. Use 3.14 for π. Round to the nearest hundredth if necessary. (Example 2)
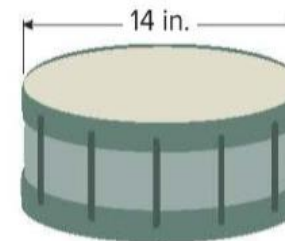
1. Find the area of the circle. Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 1)**

7.1 m
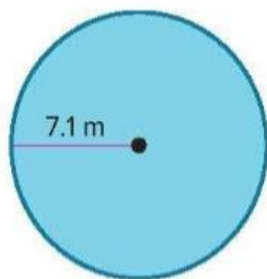
2. Find the area of the circle. Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 1)**

4.25 in.
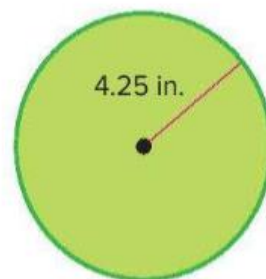
3. What is the area of the drumhead on the drum? Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 2)**

14 in.

4. What is the area of one side of the penny? Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 2)**

19 mm

5. Mr. Ling is adding a pond in the shape of a semicircle in his backyard. What is the area of the pond? Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 3)**

$8\frac{3}{4}$ ft
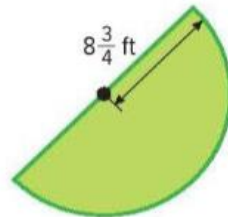
6. Vidur needs to buy mulch for his garden. What is the area of his garden? Use 3.14 for π. Round to the nearest hundredth if necessary. **(Example 3)**

5.5 yd
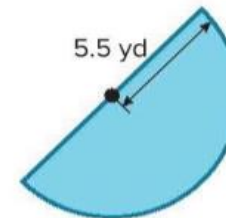
Quick Review

Example 2
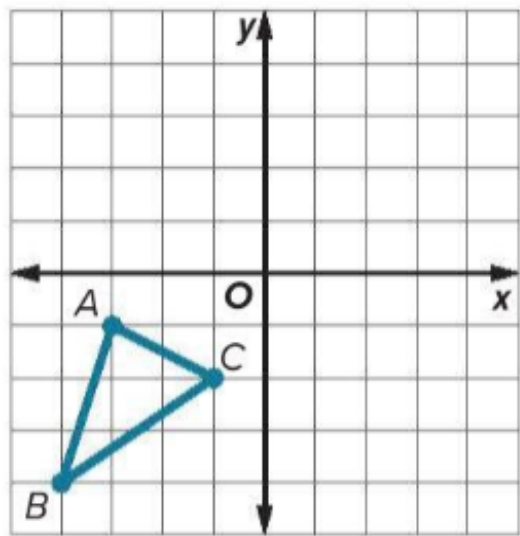
Add integers.

Find $3 + (-8)$.

$3 + (-8) = -5$ $|3| - |-8| = -5$

The sum is negative because $|-8| > |3|$.

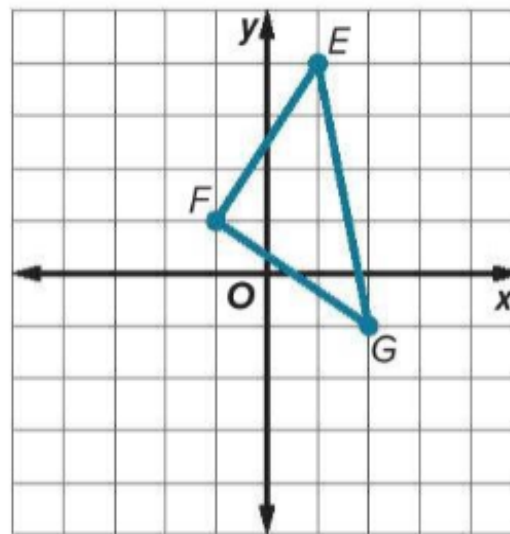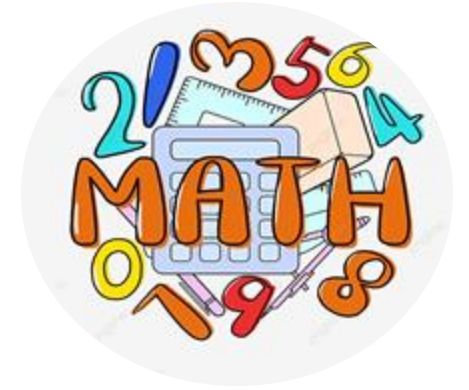## Quick Check

2. A fish was 6 meters below sea level. The fish descended 19 meters. Find $-6 + (-19)$ to determine the location of the fish compared to sea level.

1. The graph of △ABC is shown. Graph the image of △ABC after a translation of 4 units right and 1 unit up. Write the coordinates of the image. (Example 1)

2. The graph of △EFG is shown. Graph the image of △EFG after a translation of 3 units left and 1 unit down. Write the coordinates of the image. (Example 1)

Part (2)
10 main questions
5 Marks per main question
MCQ

| 11 | Use the relationships between angles to find the measures of missing angles. | 1- 4 & 8 | Page 709 |

For Exercises 1–4, use the figure at the right. In the figure, line *m* is parallel to line *n*. For each pair of angles, classify the relationship in the figure as *alternate interior*, *alternate exterior*, or *corresponding*. (Examples 1 and 2)
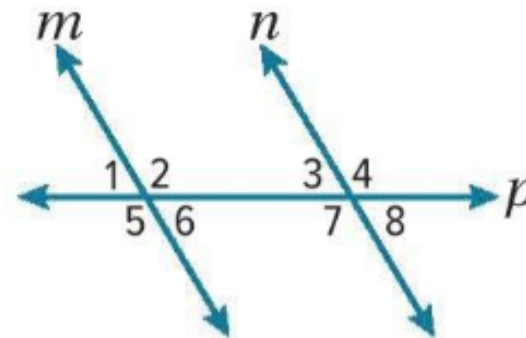
1. $\angle 2$ and $\angle 7$

2. $\angle 1$ and $\angle 3$

3. $\angle 4$ and $\angle 5$

4. $\angle 5$ and $\angle 7$

Test Practice

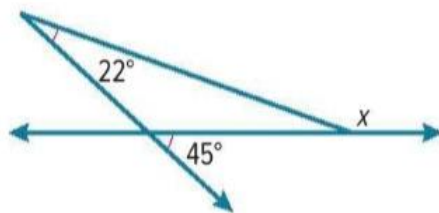**8. Multiselect** In the figure, line *m* and line *n* are parallel. Select all of the statements that are true.
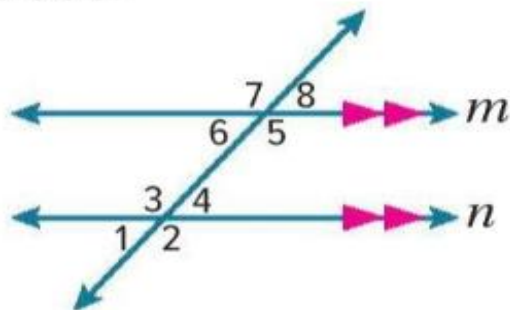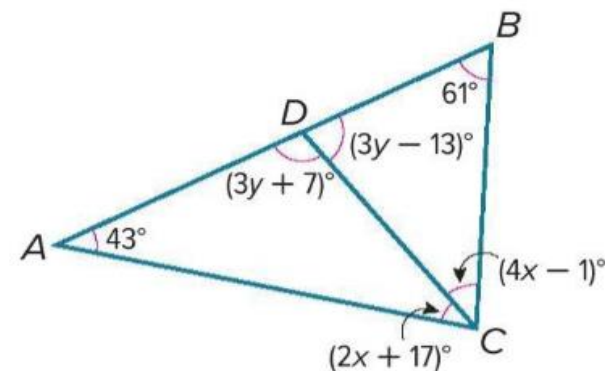

☐ ∠1 and ∠8 are alternate exterior angles.

☐ ∠3 and ∠7 are corresponding angles.

☐ ∠2 and ∠8 are corresponding angles.

☐ ∠4 and ∠6 are alternate interior angles.

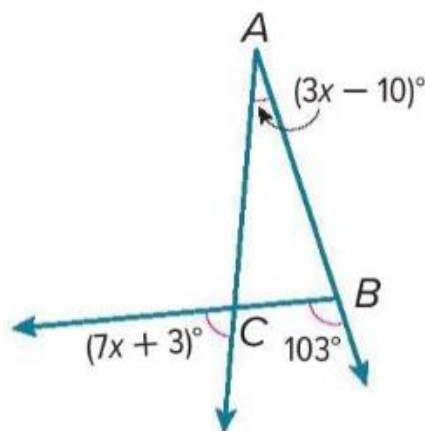☐ ∠5 and ∠7 are corresponding angles.

Test Practice

6. Open Response What is the measure of $\angle x$, in degrees, in the figure shown?

22°

45°

x

7. What are the measures of $\angle ADC$ and $\angle DCB$ in the figure below?

B

61°

D

$(3y - 13)°$

$(3y + 7)°$

A 43°

$(4x - 1)°$

$(2x + 17)°$ C

| 12 | Find the measures of interior and exterior angles in a triangle by using relationships between these angles. | 6 - 9 | Page 731-732 |

8. What are the measures of ∠CAB and ∠ACB in the figure below?

9. **MP** **Find the Error** A student is finding the measures of the angles in a triangle that have the ratio 4 : 4 : 7. Find the mistake and correct it.

$$4x + 4x + 7x = 180$$

$$15x = 180$$

$$x = 12$$

So, the angle measures are 12, 12, and 84.

Refer to the map of Florida. (Example 1)

1. What is the actual distance between Daytona Beach and Orlando? Use a ruler to measure the map.

2. What is the actual distance between Tampa and Orlando? Use a ruler to measure the map.

Ocala

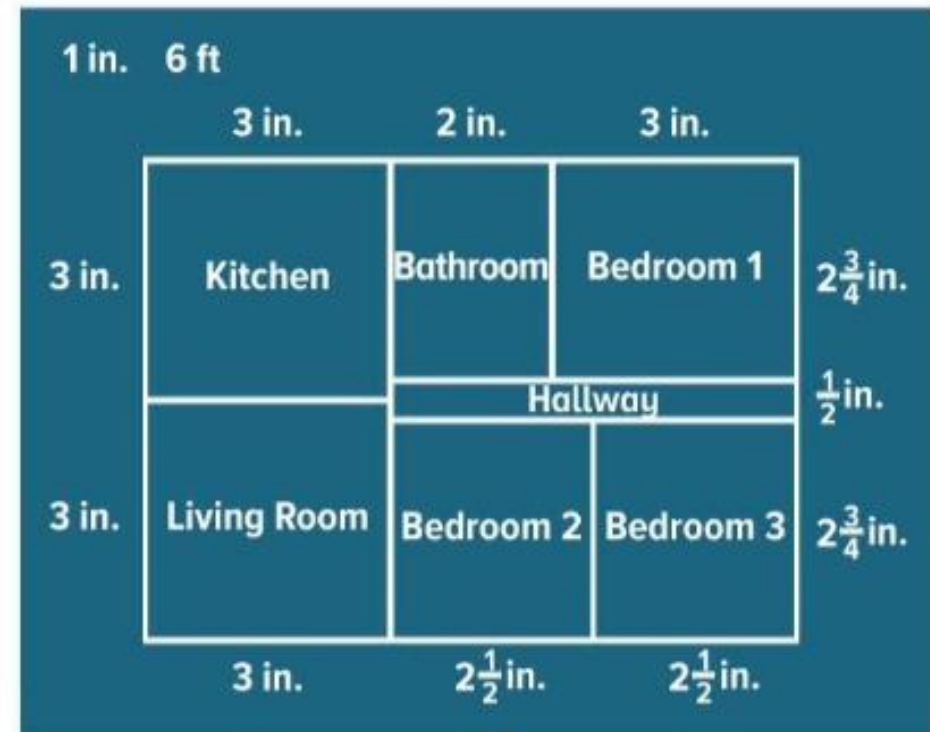Daytona Beach

Orlando

FLORIDA

Tampa

26 mi

0   1 unit

**Refer to the floor plan. The scale of the floor plan is 1 inch = 6 feet.** (Example 2)

3. Find the actual area of the hallway.

4. Find the actual area of the kitchen.

1 in.   6 ft

|	3 in.	2 in.	3 in.	
3 in.	Kitchen	Bathroom	Bedroom 1	$2\frac{3}{4}$ in.
		Hallway		$\frac{1}{2}$ in.
3 in.	Living Room	Bedroom 2	Bedroom 3	$2\frac{3}{4}$ in.
	3 in.	$2\frac{1}{2}$ in.	$2\frac{1}{2}$ in.	

Test Practice
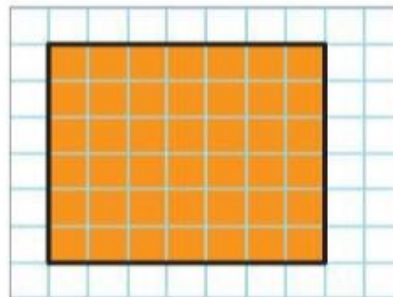
5. The drawing of a vegetable garden uses a scale of 1 unit = 10 feet. Reproduce the drawing with a scale of 1 unit = 5 feet. (Example 3)
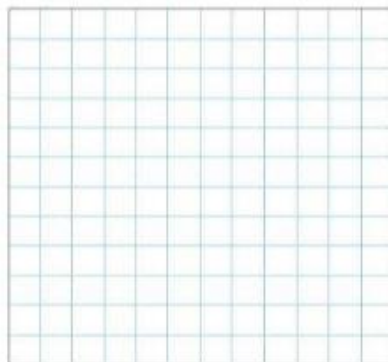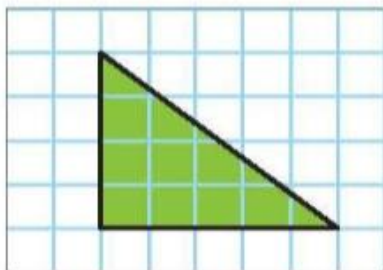
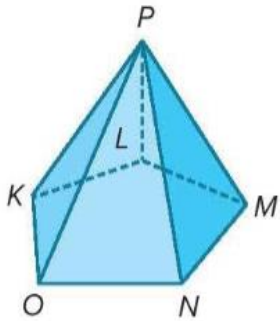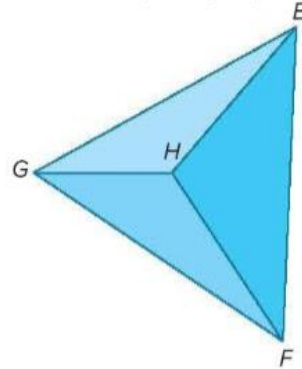6. **Grid** The drawing of a sandbox uses a scale of 1 unit = 12 inches. Reproduce the drawing with a scale of 1 unit = 24 inches.
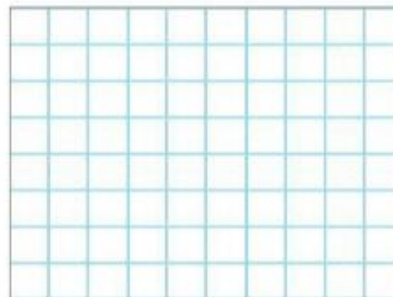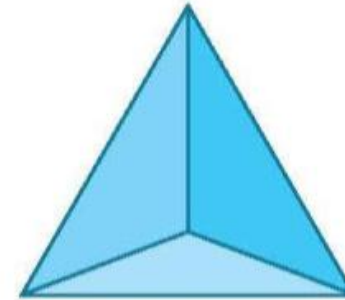
1. The figure shown is a pentagonal pyramid. Find the number of faces, edges, and vertices. (Example 1)


2. The figure shown is a triangular pyramid. Find the number of faces, edges, and vertices. (Example 1)
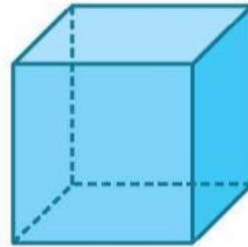

3. A triangular pyramid is shown. Describe the shape resulting from a horizontal cross section, a vertical cross section, and an angled cross section. (Examples 2 and 3)

4. A cylinder is shown. Describe the shape resulting from a horizontal cross section, a vertical cross section, and an angled cross section. **(Examples 2 and 3)**
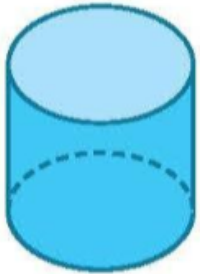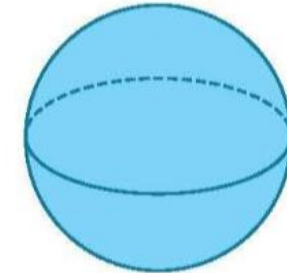
5. A cube is shown. Describe the shape resulting from a horizontal cross section, a vertical cross section, and an angled cross section. **(Examples 2 and 3)**

6. Open Response A sphere is shown. Describe the shape resulting from a horizontal cross section, a vertical cross section, and an angled cross section.

Find the area of each figure. If necessary, use 3.14 for π and round to the nearest hundredth. (Example 1)

1.

12 yd

12 yd

2.

6 ft

5 ft

3 ft

4 ft

3.

5 cm

10 cm

7 cm

6 cm

14 cm

4.

5 ft

4 ft

5.

8 m

6 m

10 m

6 m

20 m

6.

4.8 cm

3.6 cm

5.9 cm

1.1 cm
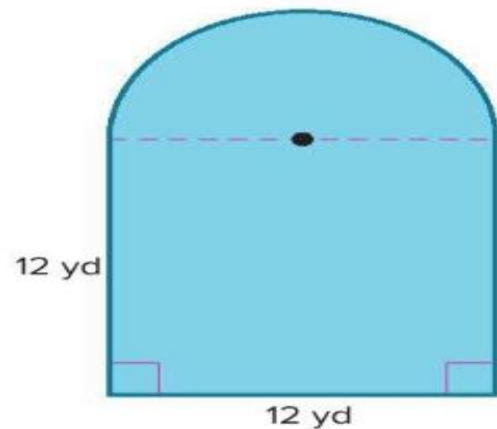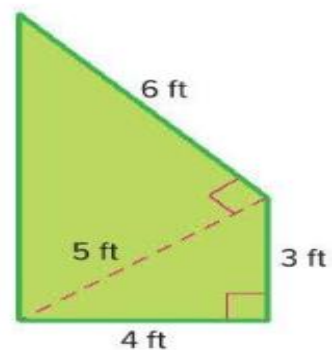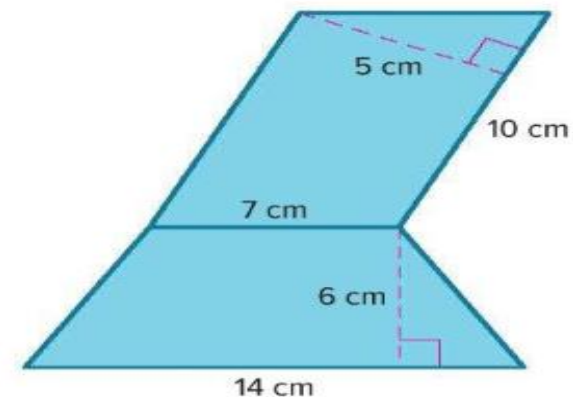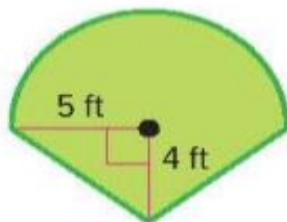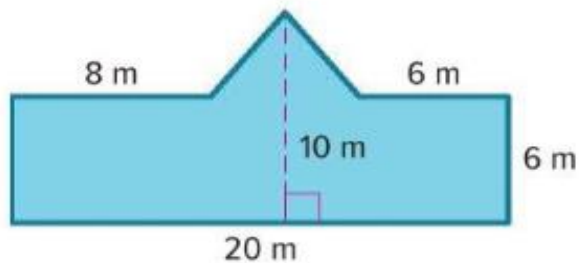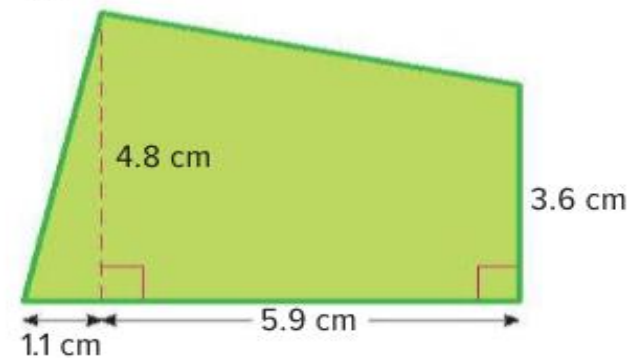
7. Find the area of the shaded region.
(Example 2)

8 ft | 32 ft

8 ft | 8 ft

8 ft | 8 ft

8 ft
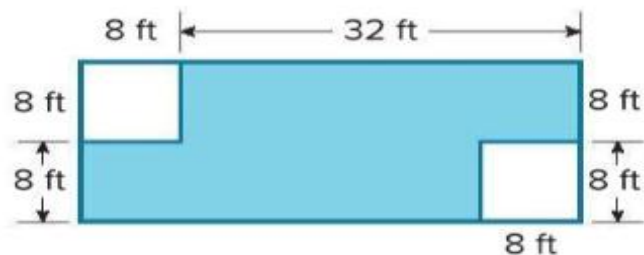
Test Practice

8. Open Response Find the area of the shaded region.

20 cm

16 cm

40 cm
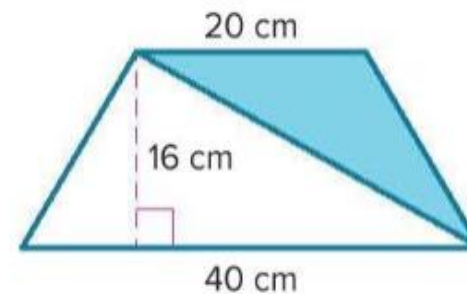
7. A triangular prism has a height of 5.9 meters and volume of 86.376 cubic meters. What is the area of the base of the prism? (Example 4)

8. A rectangular pyramid has a height of 9.5 centimeters and a volume of 494 cubic centimeters. What is the area of the base of the pyramid? (Example 5)

9. A glass stand to display a doll is in the shape of a right triangular pyramid as shown. The volume of the stand is 202.5 cubic inches. What is the height of the stand? **(Example 5)**

? in.

9 in.   9 in.
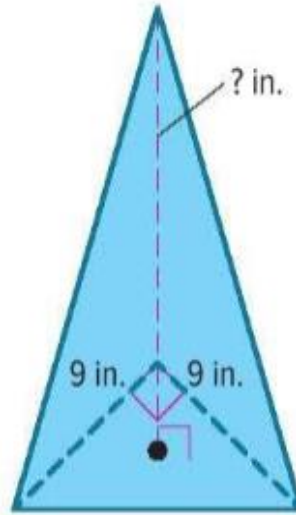
Test Practice

10. Open Response A triangular box of sticky notes is shown. The volume of the box of sticky notes is 54.6 cubic inches. What is the height of the box of sticky notes?

3.5 in.   h

5.2 in.
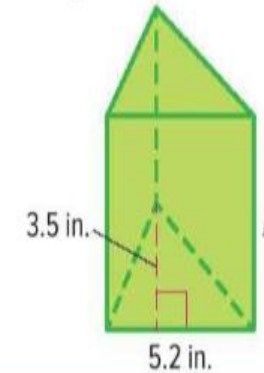
Find the surface area of each prism. Round to the nearest tenth if necessary. (Example 1)

1.

$6\frac{2}{3}$ yd

12 yd

$8\frac{1}{4}$ yd

2.

3.7 in.

6 in.

4.3 in.
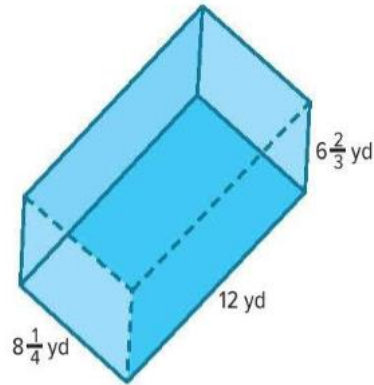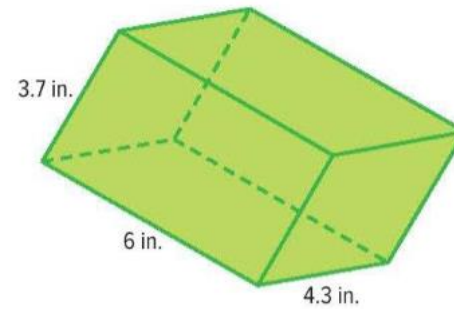
3. How much cardboard is needed to make the single slice of pizza box shown? (Example 2)

11 in.

6.7 in.

1 in.

11.5 in.
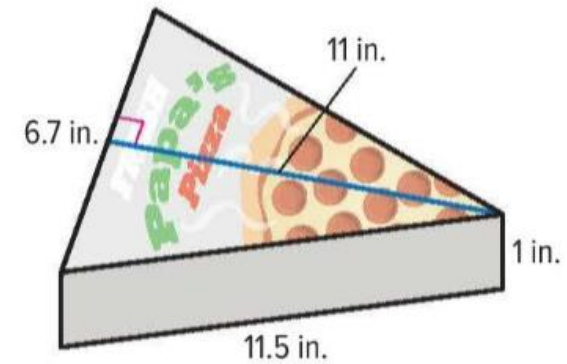
Test Practice

4. **Open Response** What is the surface area of the triangular prism-shaped toy car ramp shown?

15 in.

8 in.

7 in.

17 in.
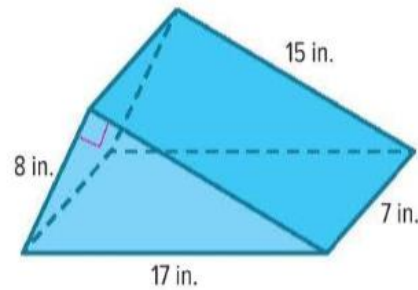
Find the surface area of each pyramid. Round to the nearest tenth if necessary. (Example 3)

5.

12.25 in.

15.75 in.

15.75 in.

6.

12.2 m

16 m

10.6 m

12.2 m

12.2 m

18	Use the formula for the volume of a sphere or hemisphere to find the volume of the figure given its radius or diameter	5- 7 & 7	Page 829 & 844
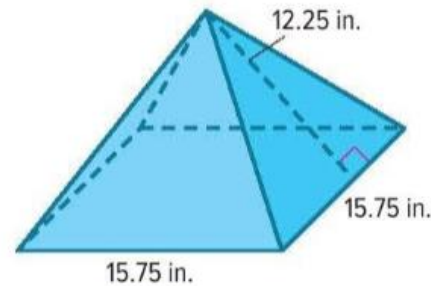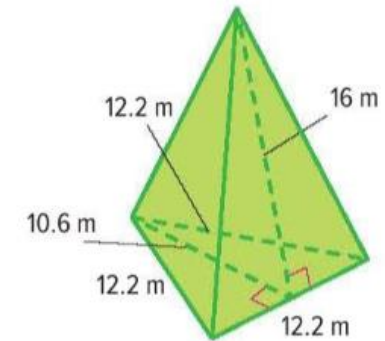
Find the volume of each hemisphere. Round to the nearest tenth. (Example 4)

5.

6.7 ft

6.

12 mm
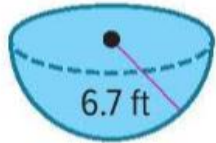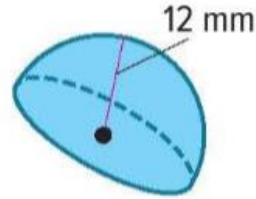
7. Olga is using spherical beads to create a border on a picture frame. Each bead has a diameter of 1.5 millimeters. Find the volume of each bead. Round to the nearest tenth.

7. Multiselect Which of the following statements regarding the hemisphere are accurate? Select all that apply. **(Lesson 8)**

7 cm
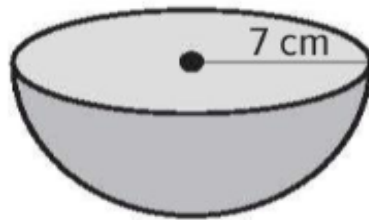
☐ The diameter of the hemisphere is 14 centimeters.

☐ The volume of a sphere is half the volume of a hemisphere that has the same radius.

☐ The volume of a hemisphere is half the volume of a sphere that has the same radius.

☐ The volume of the hemisphere, rounded to the nearest tenth, is 718.4 cubic centimeters.

☐ The volume of the hemisphere, rounded to the nearest tenth, is 205.3 cubic centimeters.

1. The graph of △ABC is shown. Graph the image of △ABC after a reflection across the x-axis. Write the coordinates of the reflected image. (Example 1)
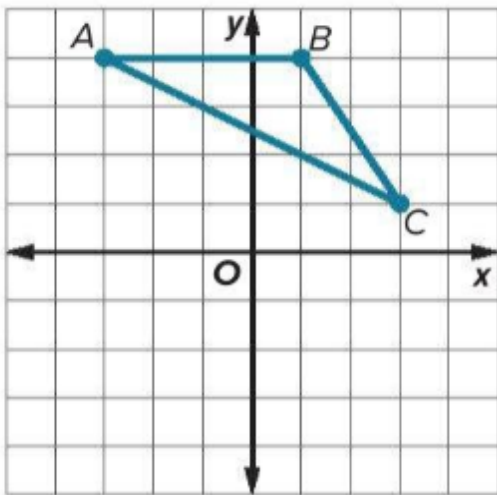
2. The graph of trapezoid WXYZ is shown. Graph the image of WXYZ after a reflection across the y-axis. Write the coordinates of the reflected image. (Example 1)
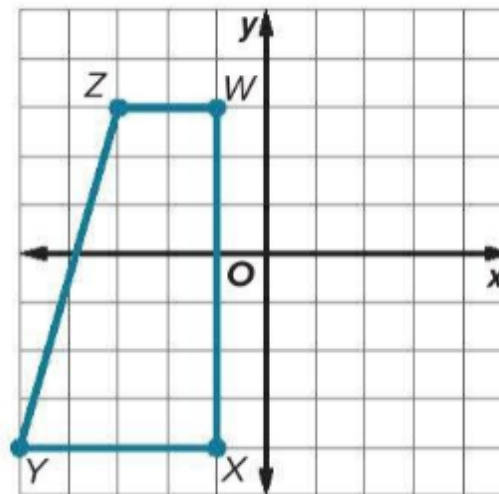
3. The graph of △CDE is shown. Graph the image of △CDE after a reflection across the line $x = 2$. Include the line of reflection. Then write the coordinates of the image. **(Example 2)**
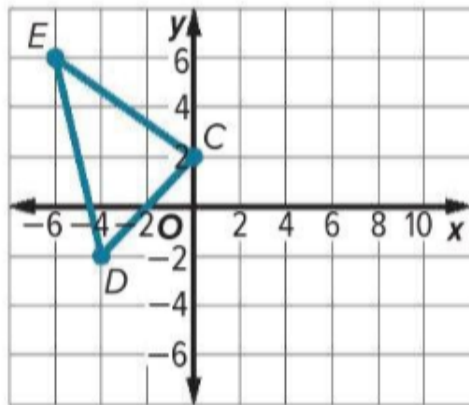
4. The graph of polygon FGHI is shown. Graph the image of FGHI after a reflection across the line $y = -1$. Include the line of reflection. Then write the coordinates of the image.
(Example 2)
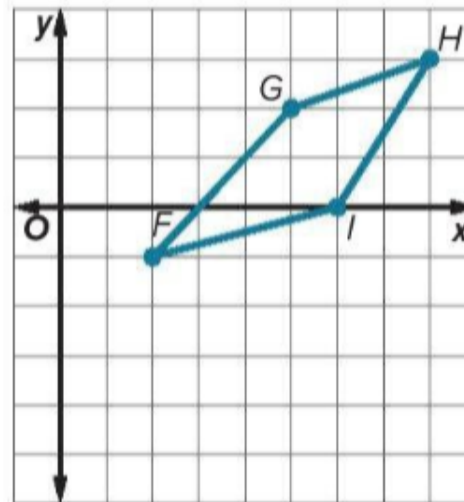
5. Triangle *TUV* has coordinates *T*(0, 3), *U*(−3, 0), and *V*(−4, 4). The triangle is reflected across the *y*-axis. Write the coordinate notation for a reflection across the *y*-axis. Then, write the coordinates of △*T′U′V′*. **(Example 3)**

6. The coordinates of △*LMN* and its image are shown. Describe the transformation. **(Example 4)**

$$L(0, 0) \rightarrow L'(0, 0)$$

$$M(-4, 1) \rightarrow M'(-4, -1)$$

$$N(-1, 3) \rightarrow N'(-1, -3)$$

| 20 | Use coordinate notation to find the coordinates of a figure that has been rotated about the origin, as well as describe the angle of rotation using the given graph and coordinates of the figures. | 1-4 | Page 875 |

1. Polygon *EFGH* has vertices *E*(−1, 3), *F*(1, 4), *G*(3, 3), and *H*(0, 0). Graph the figure and its image after a clockwise rotation of 90° about vertex *H*. Then write the coordinates of polygon *E'F'G'H'*. (Example 1)
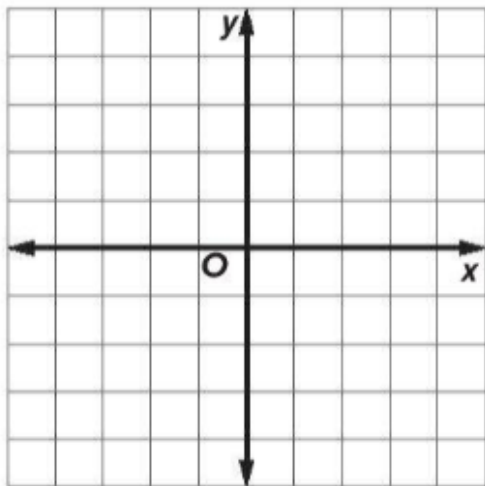
2. Triangle *XYZ* has vertices *X*(−2, −1), *Y*(0, 2), and *Z*(2, −1). Graph the figure and its image after a clockwise rotation of 180° about vertex *Z*. Then write the coordinates of △*X'Y'Z'*. (Example 1)

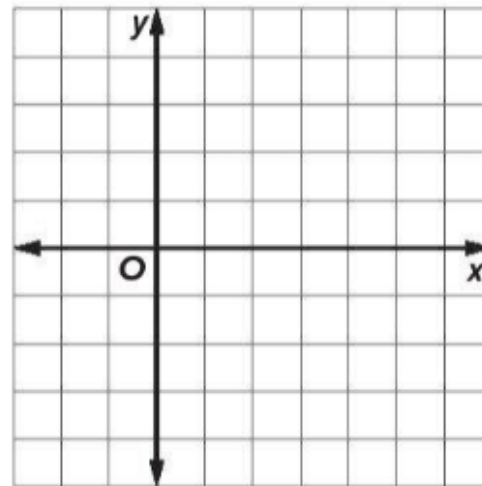| 20	Use coordinate notation to find the coordinates of a figure that has been rotated about the origin, as well as describe the angle of rotation using the given graph and coordinates of the figures.	1- 4	Page 875

Triangle **QRS** has vertices **Q**(−2, 2), **R**(−3, −4), and **S**(1, −2). Write the coordinate notation for each rotation given. Then write the coordinates of △**Q′R′S′** after each rotation. (Example 2)

3. clockwise rotation of 180° about the origin

4. clockwise rotation of 270° about the origin
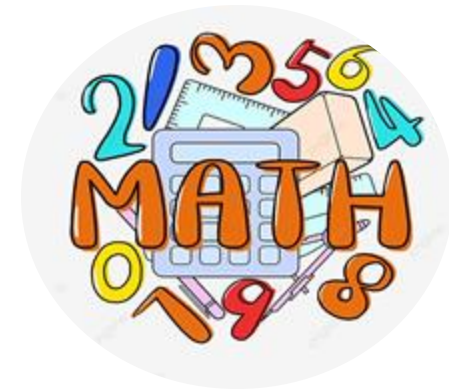
Part (3)
3 main questions
(6-8) Marks per main question
FRQ

Apply

9. Angles A and B are corresponding angles formed by two parallel lines cut by a transversal. If $m\angle A = 4x°$ and $m\angle B = (3x + 7)°$, find the value of x. Explain.
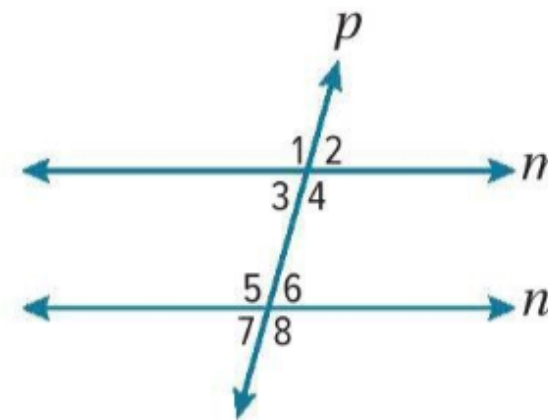
10. In the figure, line m is parallel to line n. If $m\angle 3 = (7x - 10)°$ and $m\angle 6 = (5x + 10)°$, what are the measures of $\angle 3$ and $\angle 6$?

11. **MP** **Reason Abstractly** Refer to the figure in Exercise 10. Look at a pair of angles described as *interior angles on the same side of the transversal*. What do you think the relationship is between these angles? Explain why you think this is true.

12. Determine if the statement is *true* or *false*. Construct an argument that can be used to defend your solution.

If a transversal intersects two parallel lines, the measures of the alternate exterior angles are equal.

13. Determine the measure of ∠W. Construct an argument that can be used to defend your solution.

85° W
148°
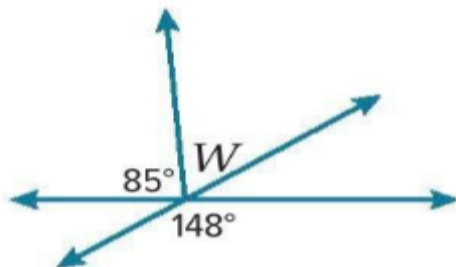
14. **MP** **Find the Error** A student was finding the measure of ∠5 in the figure below. She concluded that $m\angle 5 = 86°$ because it is a corresponding angle with ∠2. Find her mistake and correct it.

1 86°
2 3
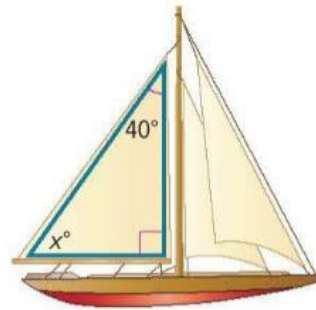
5 4
6 7
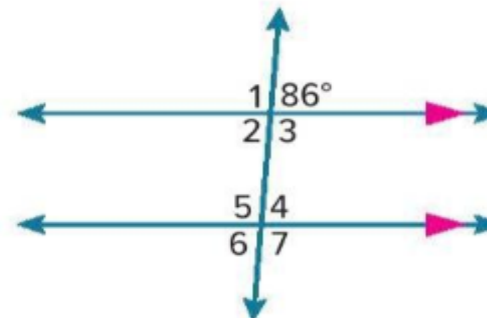
Find the value of x in each object. (Example 1)

1.

2.

3. In △*FGH*, the measures of angles *F*, *G*, and *H*, respectively, are in the ratio 4 : 4 : 10. Find the measure of each angle. (Example 2)

4. In the knitting pattern, $m\angle 1 = 42°$. Find the measure of $\angle 2$. (Example 3)
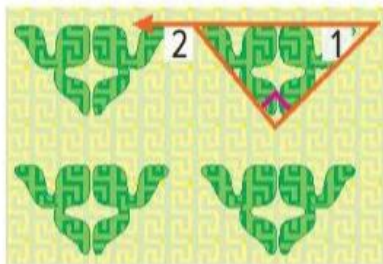
5. In the figure, $m\angle 4 = 74°$ and $m\angle 3 = 43°$. Find the measures of $\angle 1$ and $\angle 2$. (Example 4)
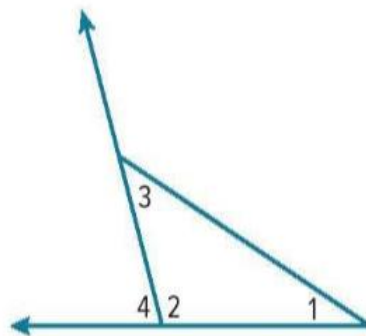
Test Practice

6. Open Response What is the measure of $\angle x$, in degrees, in the figure shown?

22	Classify and draw triangles freehand, with tools, and with technology given certain conditions, such as angle measures or side lengths	1- 6	Page 719

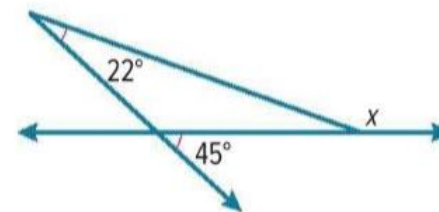**1.** Draw a triangle with three acute angles and two congruent sides. Classify the triangle by its sides and angles. Then determine if these characteristics create a unique triangle or more than one triangle. **(Example 1)**

2. Draw a triangle with one right angle and two congruent sides. Classify the triangle by its sides and angles. Then determine if these characteristics create a unique triangle or more than one triangle. **(Example 1)**

3. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 50° angle, a 60° angle, and an 80° angle. If so, draw the triangle. If not, explain why. **(Examples 2 and 3)**

22	Classify and draw triangles freehand, with tools, and with technology given certain conditions, such as angle measures or side lengths	1- 6	Page 719

4. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 60° angle, a 60° angle, and a 60° angle. If so, draw the triangle. If not, explain why. **(Examples 2 and 3)**

5. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 6 millimeter side, an 8 millimeter side, and a 90° angle between them. If so, draw the triangle. If not, explain why. **(Examples 2 and 3)**

6. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 75° angle, a 115° angle, and a side of 4 inches between the two angles. If so, draw the triangle. If not, explain why. **(Examples 2 and 3)**
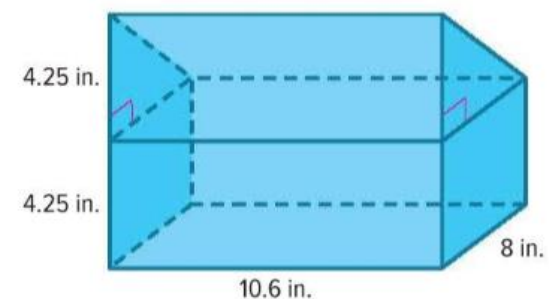
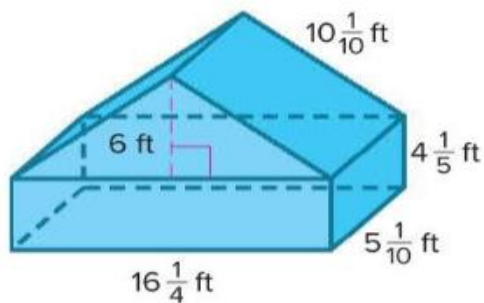**1.** Find the volume of the solid. Round to the nearest tenth. (Example 1)

12 in.

13 in.
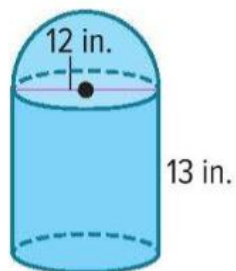
2. Find the volume of the flower vase. Round to the nearest tenth. (Example 2)

8 cm

12 cm

20 cm

12 cm

10 cm
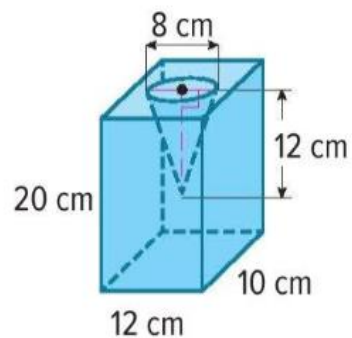
**3.** Mya's lunchbox is shown. What is the volume of the lunchbox? Round to the nearest tenth if necessary. (Example 3)
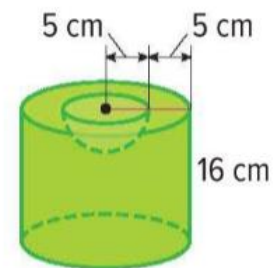
4.25 in.

4.25 in.

8 in.

10.6 in.

4. Find the surface area of the composite solid. Round to the nearest tenth if necessary. **(Example 4)**

$10\frac{1}{10}$ ft

6 ft

$4\frac{1}{5}$ ft

$5\frac{1}{10}$ ft

$16\frac{1}{4}$ ft

5. Open Response Find the surface area of the composite solid. Round to the nearest tenth if necessary.

9 m

3.5 m

9 m

9.035 m

3.5 m

0.8 m
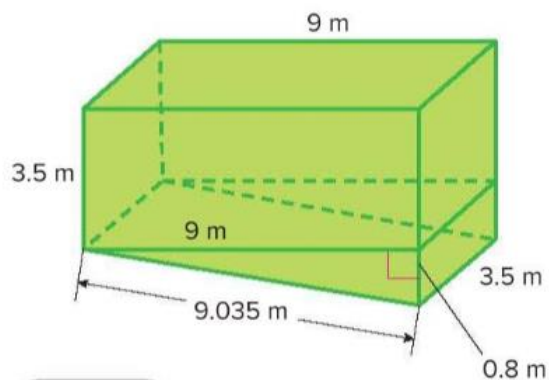
6. Find the volume of the solid. Round to the nearest tenth.

5 cm   5 cm

16 cm

Bonus Questions - الأسئلة الإضافية			
	24	A learning outcome from the SoW****	Undisclosed	Undisclosed
	25	A learning outcome from the SoW****	Undisclosed	Undisclosed
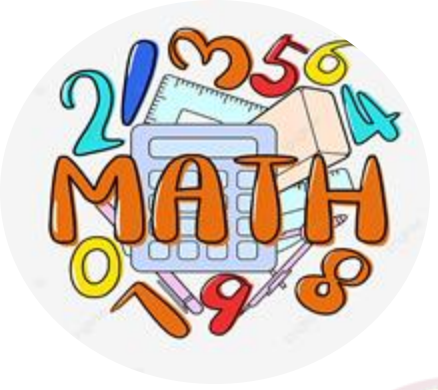
مع تمنياتي للجميع بالنجاح والتوفيق

سعاد عاطف: معلمة المادة