



Zayed city New school

Cycle – 2

EOT3 GRADE 6 ELITE

Mathematics

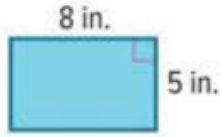
Teacher :Alaa Elatawy

Academic Year	2022/2023
العام الدراسي	
Term	2
الفصل	
Subject	Mathematics
المادة	الرياضيات
Grade	6
الصف	
Stream	Elite
المسار	النخبة
Number of Main Questions	Part (1) - 10
عدد الأسئلة الأساسية	Part (2) - 10
	Part (3) - 3
Marks per Part	Part (1) - 30
الدرجات لكل جزء	Part (2) - 50
	Part (3) - 20
****Number of Bonus Questions	2
عدد الأسئلة الإضافية	
Marks per Bonus Question	5
الدرجات لكل سؤال إضافي	
*** Type of All Questions	Part(1 and 2) MCQ
نوع كافة الأسئلة	Part (3) FRQ
* Maximum Overall Grade	110
*الدرجة القصوى الممكنة	
Exam Duration - مدة الامتحان	150 minutes
Mode of Implementation	SwiftAssess & Paper-Based
طريقة التطبيق	
Calculator	Not Allowed
الألة الحاسبة	غير مسموحة



Part 1	Type of Questions	اختياري	الدرجات لكل سؤال	3 درجات
1	Find area of rectangle	Quick review and Quick Check	Page :434	

Find the area of the rectangle.



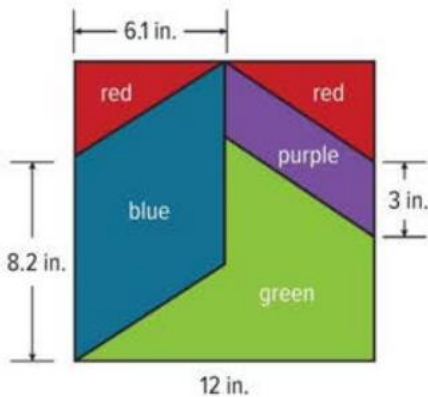
1. A garden is in the shape of a rectangle.
The length of the garden is 12 feet and the width is 7 feet. What is the area of the garden?

2	Multiply fractions by whole number	Quick review and Quick Check	Page :434
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2. Find $\frac{1}{2} \cdot 34$.

3	Use the area formula for a parallelogram to find areas or missing dimensions.	1-6	Page :441
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1. The pattern shows the dimensions of a quilting square that Nakida will use to make a quilt. How much blue fabric will she need to make one square? (Example 1)



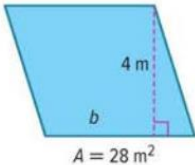
3	Use the area formula for a parallelogram to find areas or missing dimensions.	1-6	Page :441
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2. A group of students is painting the flag of Brunei for a geography project. Joseph is responsible for painting only the background colors of the flag. How many square inches will he cover with white paint?
(Example 1)

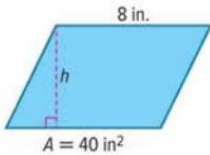


3	Use the area formula for a parallelogram to find areas or missing dimensions.	1-6	Page :441
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3. Find the missing dimension of the parallelogram. (Example 2)

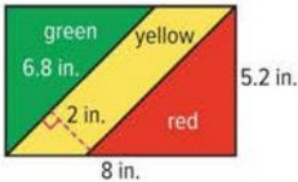


4. Find the missing dimension of the parallelogram. (Example 2)

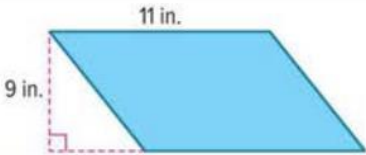


3	Use the area formula for a parallelogram to find areas or missing dimensions.	1-6	Page :441
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5. Find the area of the yellow striped region of the flag of the Republic of the Congo.

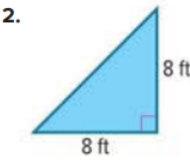
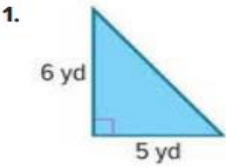


6. **Open Response** What is the area of the parallelogram?



4	Use the area formula for a triangle to find areas or missing dimensions. •	1-4	Page :449
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Find the area of each triangle. (Example 1)



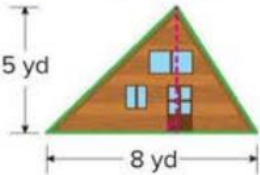
4	Use the area formula for a triangle to find areas or missing dimensions. •	1-4	Page :449
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3. Tameeka is in charge of designing a school pennant for spirit week. What is the area of the pennant? (Example 2)



4	Use the area formula for a triangle to find areas or missing dimensions.	1-4	Page :449
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4. Norma has an A-frame cabin. The back is shown below. If the total area of the windows and doors is 3.5 square yards, how many square yards of paint will she need to cover the back of the cabin? (Example 2)



5	Multiply rational numbers	Quick review and Quick Check	Page :484
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Multiply rational numbers.
Find $12 \times 3.5 \times 18$.

5	Multiply rational numbers	Quick review and Quick Check	Page :484
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1. Find $12 \times 2.2 \times 17.5$.

6	Evaluate numerical expressions	Quick review and Quick Check	Page :484
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Evaluate numerical expressions.
Evaluate $(8 \times 6) + (3 \times 9)$.

7	Add rational numbers	Quick review and Quick Check	Page :536
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Add rational numbers.
Find $11.83 + 8.76 + 13.28 + 16.38$.

1. Find $7.68 + 5.25 + 2.99 + 3.18$.

Divide rational numbers.

Lydia typed 105.2 words in 4 minutes. How many words did Lydia average typing each minute?

2. A pilot flew 1,308.3 miles this week. The pilot flew the same number of miles each of 3 days this week. How many miles did the pilot fly each day?

Determine whether or not each question is a statistical question.
(Example 1)

- How many continents are there?
- How many continents has the average student visited?
- How many sporting events did the average student attend last year?
- In what year was the first World Series?

1. Chris surveyed the members of his tennis team by asking the question *In how many tennis tournaments have you played?*. The results are shown in the table. Construct a dot plot of the data and summarize the results. (Example 1)

Number of Tennis Tournaments					
0	2	1	4	0	1
1	0	3	2	6	0

2. The table shows the results of asking a group of teachers the question *How many students are in your homeroom?*. Construct a histogram to represent the data. (Example 2)

Homeroom Class Size						
17	26	20	23	19	23	22
22	24	19	20	21	20	23

3. The table shows the results of asking a group of students the question *How many hours per month do you volunteer?*. Construct a histogram to represent the data. (Example 2)

Hours Spent Volunteering						
48	30	21	10	1	40	19
10	5	40	39	20	9	40
31	45	29	40	18	49	31
24	32	15	0	15	27	12

4. **Open Response** Petra surveyed the members of her dance class by asking the question *How many hours outside of class do you usually practice dance each week?*. The results are shown in the table. Construct a dot plot of the data.

Number of Hours				
1	3	4	5	2
2	2	4	3	1
3	3	2	4	2

Part 2	Type of Questions	اختياري	الدرجات لكل سؤال	5 درجات
11	Use the area formula for a triangle to find areas or missing dimensions.	5.-8	Page :449	

Find the missing dimension in each triangle. (Example 3)

5.

8.6 km

b

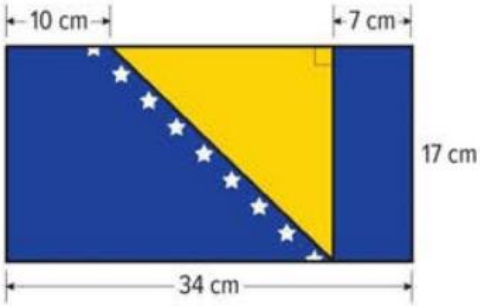
$A = 38.7 \text{ km}^2$

6.

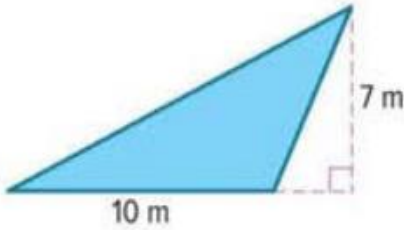
6.75 in.

h

$A = 13.5 \text{ in}^2$

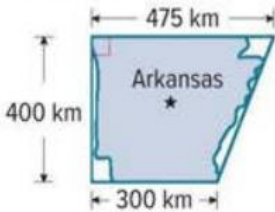
11	Use the area formula for a triangle to find areas or missing dimensions.	5.-8	Page :449
<p>7. The flag of Bosnia and Herzegovina is shown. What is the area of the triangle on the flag?</p> 			
11	Use the area formula for a triangle to find areas or missing dimensions.	5.-8	Page :449

8. Open Response What is the area of the triangle?



12	Use the area formula for a trapezoid to find areas or missing dimensions..	5.-8	Page :461
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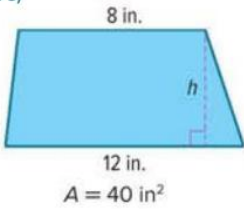
5. The shape of Arkansas resembles a trapezoid. What is the approximate area of Arkansas? (Example 3)



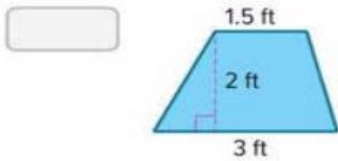
6. The top of the desk shown is in the shape of a trapezoid. What is the area of the top of the desk? (Example 4)



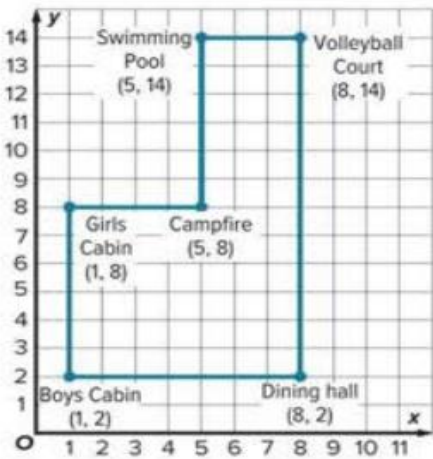
7. Find the missing dimension of the trapezoid.
(Example 5)



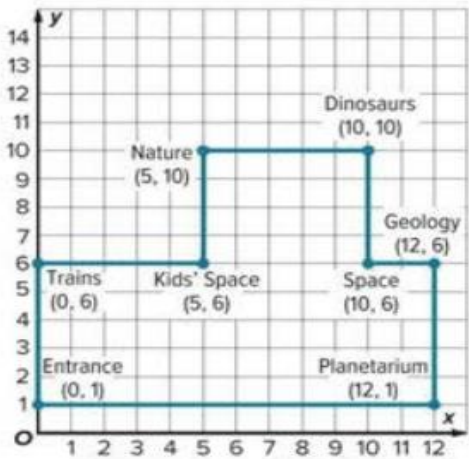
8. **Open Response** **C**iro made a sign in the shape of a trapezoid. What was the area of **C**iro's sign?



1. Find the perimeter of the summer camp shown on the coordinate plane. (Example 1)



2. Find the perimeter of the science center shown on the coordinate plane. (Example 1)



14	Graph the vertices of a polygon, draw the shape represented by the points, and then use the graphed polygon to find its area and perimeter.	3-6	Page :477
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3. A rectangle has vertices $W(2, 7)$, $X(2, 0)$, $Y(6, 0)$, and $Z(6, 7)$. Use the coordinates to find the perimeter of the rectangle. (Example 2)
4. A rectangle has vertices $H(3, 0)$, $I(3, 7)$, $J(6, 7)$, and $K(6, 0)$. Use the coordinates to find the perimeter of the rectangle. (Example 2)

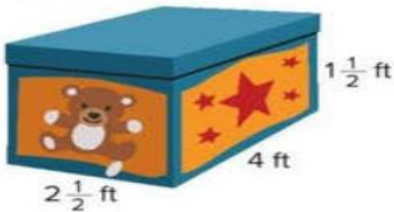
14	Graph the vertices of a polygon, draw the shape represented by the points, and then use the graphed polygon to find its area and perimeter.	3-6	Page :477
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5. A polygon has vertices $A(3, 3)$, $B(3, 6)$, and $C(9, 3)$. Find the area of the polygon(Example 3)
6. **Multiple Choice** A polygon has vertices $J(2, 3)$, $K(4, 3)$, $L(4, 7)$, and $M(2, 7)$. What is the area of the polygon? (Example 3)

☐ A 8 square units
☐ B 10 square units
☐ C 12 square units
☐ D 16 square units

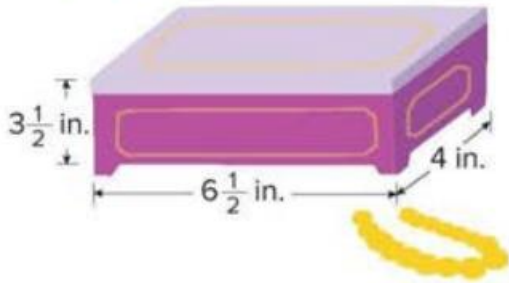
15	Find the volume of a rectangular prism by using unit cubes and by using the volume formula when given the length, width, and height of the prism.	1-2	Page :493
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1. Geneva’s younger brother has a toy box that is shaped like a rectangular prism with the dimensions shown. What is the volume of the toy box? (Example 1)



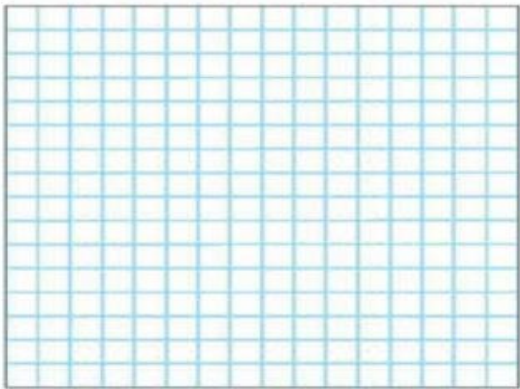
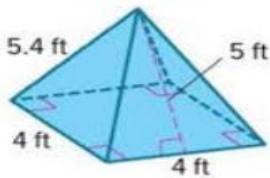
15	Find the volume of a rectangular prism by using unit cubes and by using the volume formula when given the length, width, and height of the prism.	1-2	Page :493
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2. Roy made a jewelry box in the shape of a rectangular prism with the dimensions shown. What is the volume of the jewelry box? (Example 1)

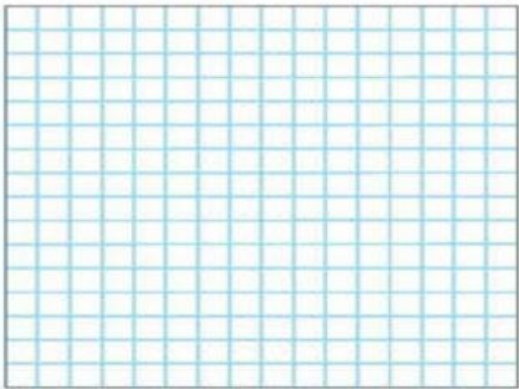
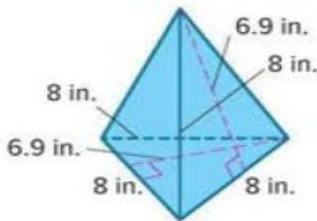


16	Represent a triangular or square pyramid with a net made up of squares and triangles, and then use that net to find the surface area of the given figure.	1-4	Page :529
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1. Draw and label a net to represent the square pyramid. (Example 1)

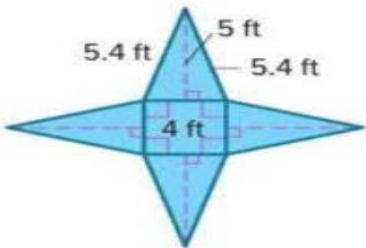


2. Draw and label a net to represent the triangular pyramid. (Example 2)



16	Represent a triangular or square pyramid with a net made up of squares and triangles, and then use that net to find the surface area of the given figure.	1-4	Page :529
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3. Use the net to find the surface area of the pyramid. (Example 3)



16	Represent a triangular or square pyramid with a net made up of squares and triangles, and then use that net to find the surface area of the given figure.	1-4	Page :529
<p>4. Open Response Use the net to find the surface area of the pyramid in square inches. (Example 4)</p> <div></div>			

17	Find a missing data value given the mean.	1-4	Page :559
<p>1. The number of cans collected over the weekend by each sixth grade homeroom was 57, 59, 60, 58, 58, and 56 cans. Find the mean number of cans collected. (Example 1)</p> <p>2. Grace and her friends are comparing the number of pets they own. They have 1, 2, 0, 5, 1, 1 and 4 pets. Find the mean number of pets owned. (Example 1)</p>			

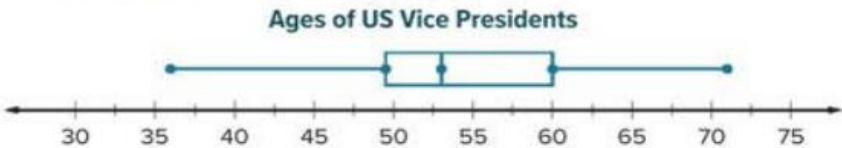
17	Find a missing data value given the mean.	1-4	Page :559
<p>3. The amount Lucy earned babysitting each month for the past five months was \$225, \$280, \$240, \$180, and \$200. Suppose the mean for six months was \$220. How much did Lucy earn babysitting during the sixth month? (Example 2)</p> <p>4. The average high temperature last week was 65 degrees Fahrenheit. The high temperatures for Sunday through Friday were 68, 70, 73, 45, 68, and 71 degrees Fahrenheit. What was the high temperature on Saturday? (Example 2)</p>			

1. Cameron surveyed her friends about the number of apps they use. The responses were 15, 16, 18, 9, 18, 4, 19, 20, 17, and 36 apps. Use the range and interquartile range to describe how the data vary. (Example 1)

2. The table shows the number of hours different animals spend sleeping per day. Use the range and interquartile range to describe how the data vary. (Example 1)

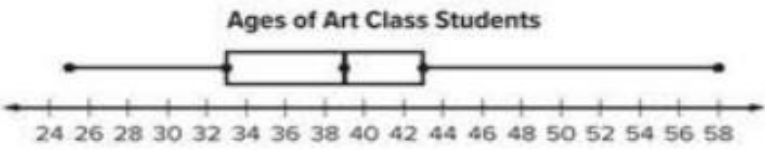
Time Animals Spend Sleeping (h)					
12	20	16	11	4	2

3. The box plot shows the ages of vice presidents when they took office. Describe the distribution of the data. What does it tell you about the ages of vice presidents? (Example 2)



4. The ages of children taking a hip-hop dance class are 10, 9, 9, 7, 12, 14, 14, 9, and 16 years old. Construct a box plot of the data. Then describe the distribution of the data. (Example 3)

5. Table Item The ages of the current students attending an art class at a local community center are shown in the box plot. Consider the parts of the box plot and indicate which of the parts are correctly named. (Lesson 4)



	Correct	Incorrect
Lower Extreme = 24		
Median = 39		
Q ₁ = 33		
Q ₃ = 44		
Upper Extreme = 58		

19	Understand how an outlier may affect a measure of center, and determine which measure of center is most appropriate to use when describing a data set that does or does not contain an outlier.	1.-4.	Page :581
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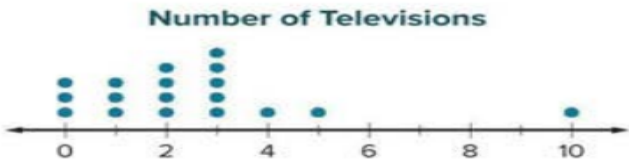
1. Last week, Joakim spent 40, 25, 60, 30, 35, and 40 minutes practicing the piano. Identify any outliers in the data. (Example 1)
2. Last month, a basketball team scored 83, 84, 85, 87, 89, 88, 67, 79, and 81 points in their games. Identify any outliers in the data. (Example 1)

19	Understand how an outlier may affect a measure of center, and determine which measure of center is most appropriate to use when describing a data set that does or does not contain an outlier.	1.-4.	Page :581
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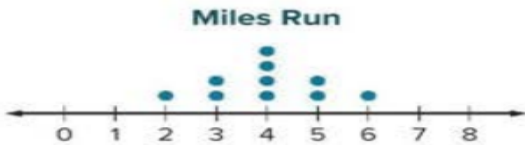
3. Abrianna sold 20, 23, 18, 4, 17, 21, 15, and 56 boxes of cookies after different football games. Identify any outliers in the data. (Example 1)
4. Last week a certain pet store had 52, 72, 96, 21, 58, 40, and 75 paying customers. Identify any outliers in the data. (Example 1)

20	Determine the symmetry of data represented in different displays, determine the most appropriate measure of center and variation based on the symmetry, and use the measures to describe the data..	1.-5.	Page :591
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1. The dot plot shows the number of televisions owned by the families in a neighborhood. Choose the appropriate measure of center and variation. Then use the measures to describe the data set. (Example 1)



2. The dot plot shows the number of miles run by various sixth grade students. Choose the appropriate measure of center and variation. Then use the measures to describe the data set. (Example 1)



20	Determine the symmetry of data represented in different displays, determine the most appropriate measure of center and variation based on the symmetry, and use the measures to describe the data..	1.-5.	Page :591
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3. The histogram shows the dollars pledged by supporters of an animal shelter. Use clusters, gaps, peaks, outliers, and symmetry to describe the shape of the distribution. (Example 2)



4. The box plot shows the amount of money, in dollars, Olivia saved during various months. Find the median and the measures of variation. Then describe the data. (Example 3)



20	Determine the symmetry of data represented in different displays, determine the most appropriate measure of center and variation based on the symmetry, and use the measures to describe the data..	1.-5.	Page :591
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5. **Multiple Choice** The box plot shows the ticket prices, in dollars, of various concerts. What is the median, interquartile range, and range of the data, in that order?



A 30; 35; 50

B 30; 40; 105

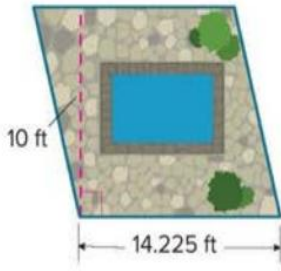
C 30; 15; 50

D 30; 35; 105

Part 3	Type of Questions	کتابي	الدرجات لكل سؤال	6-8 درجات
21	Use the area formula for a parallelogram to find areas or missing dimensions...	7.-10	Page :442	

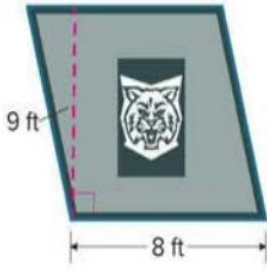
Apply

7. Liam is designing a patio and fountain for his backyard. The fountain will cover 50 square feet. The remaining space will be covered with tiles. If one tile covers 2.25 square feet, how many tiles will Liam need?



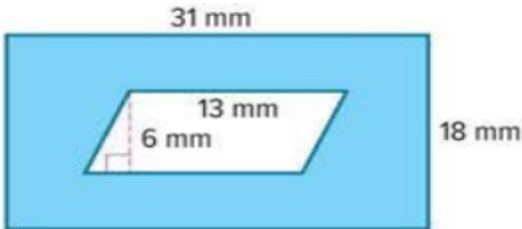
21	Use the area formula for a parallelogram to find areas or missing dimensions...	7.-10	Page :442	
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8. T ara and Veronica are making a parallelogram-shaped banner for a football game. They will paint the entire banner except for a rectangular section where a photo of the school's mascot will be placed. The photo of the mascot has an area of 6 square feet. If a 16-ounce bottle of primer covers 24 square feet, how many bottles of paint will they need?



21	Use the area formula for a parallelogram to find areas or missing dimensions...	7.-10	Page :442	
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9. **MP Identify Structure** Find the area of the shaded region.

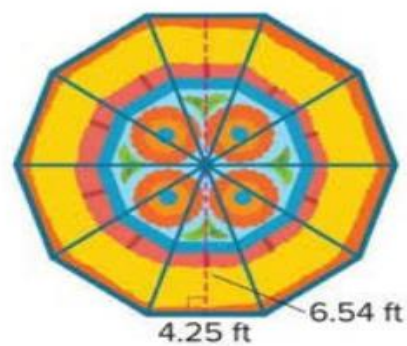


10. **Create** Draw and label a parallelogram with a base that is 2 times its height and has an area that is less than 100 square yards.

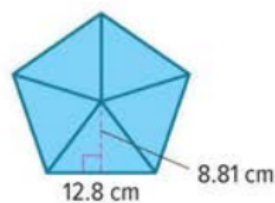
1. Kendra knitted the coaster shown as a present for her grandmother. The coaster is shaped like a regular hexagon. Each side of the hexagon is 3.5 inches. Find the area of the coaster. Round to the nearest hundredth. (Example 1)



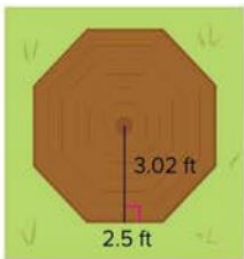
2. Paul bought a new rug in the shape of a regular decagon. Each side of the decagon is 4.25 feet. Find the area of the rug. Round to the nearest hundredth. (Example 1)



3. **Open Response** A regular pentagon is shown. What is the area of the pentagon?

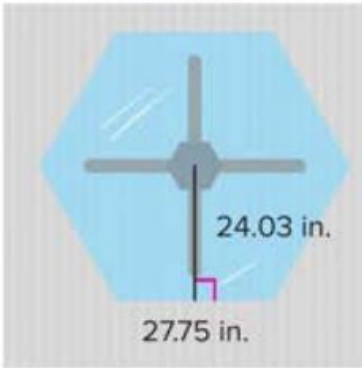


4. Julian is going to build a picnic table. The top of the picnic table is shaped like an octagon with sides measuring 2.5 feet. If the wood costs \$3.95 per square foot, what is the least he will spend on the top of the picnic table?



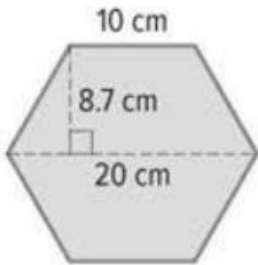
22	Decompose a polygon into triangles, parallelograms, and trapezoids to find the area of the polygon.	1-5	Page :467-468
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5. Williana’s mother wants to buy a glass tabletop for their dining room table. The tabletop is shaped like a hexagon with sides measuring 27.75 inches. If the glass costs \$0.06 per square inch, how much will she spend on the glass table top?



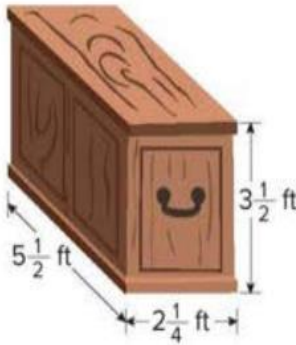
22	Decompose a polygon into triangles, parallelograms, and trapezoids to find the area of the polygon.	7	Page :482
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7. **Open Response** A tapestry is shaped like a regular hexagon. (Lesson 4)



23	Represent a rectangular prism with its net to find the surface area in mathematical and real-world contexts	4.-8	Page :504
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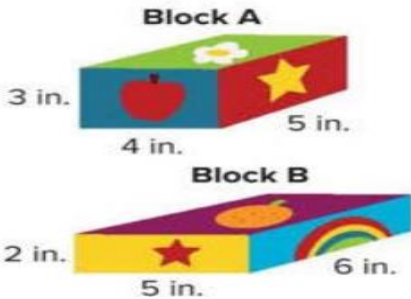
4. Jing is putting a special restorative stain on the entire surface of her rectangular prism shaped hope chest, except for her name plate that measures $\frac{1}{2}$ foot by $\frac{3}{4}$ foot. If one can of stain covers about 35 square feet, how many cans of stain will she need to buy?



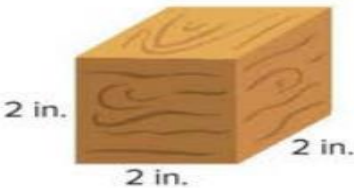
5. **MP Make a Conjecture** Write a formula that could be used to find the surface area of a rectangular prism. Define each variable you choose to use in your formula.

6. **Create** Draw and label a rectangular prism that has a surface area that is greater than its volume.

7. **MP Reason Abstractly** Find the surface area and volume of each rectangular prism shaped block. Which block has the greater surface area? Does the same block have a greater volume? Write an argument that can be used to defend your solution.



8. Meredith is painting rectangular prisms like the one shown. If she covers all the surfaces, how many square inches need to be painted? Describe two different ways to solve the problem.



24	A learning outcome from the SoW****	Undisclosed	Undisclosed
25	A learning outcome from the SoW****	Undisclosed	Undisclosed
<p>While the overall number of marks is 110, the student's final grade will be out of 100. Example: if a student scores 75 on the exam, the mark will be 75 and if (s)he scores 107, it will be reported as 100 (maximum possible grade).</p> <p>مع أن مجموع العلامات الكاملة هو 110، فإن درجة الطالب (ة) النهائية تحسب من 100. مثال: إذا كانت درجة الامتحان 75، سيبقى كما هي بينما إذا كانت درجة الامتحان 107 ستكون الدرجة 100 (الدرجة القصوى الممكنة).</p>			
Questions might appear in a different order in the actual exam, and bonus questions will be clearly marked on the system (or on the exam paper in the case of G3 and G4).	قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي، وسيتم تحديد الأسئلة الإضافية بشكل واضح على النظام (أو على ورقة الامتحان في حالة الصفين G3 و G4).		
As it appears in the textbook, LMS, and scheme of work (SoW).	كما وردت في كتاب الطالب وLMS والخطة الفصلية.		
The 2 bonus questions will target LOs from the SoW. These LOs can be within the ones used for the main questions or any other ones listed in the SoW.	ستستهدف الأسئلة الإضافية نواتج التعليم من الخطة الدراسية. يمكن أن تكون النواتج التعليمية هذه ضمن تلك المستخدمة للأسئلة الرئيسية أو أي أسئلة أخرى مدرجة في الخطة الدراسية.		