



6<sup>th</sup> Grade Week 4 Packet

April 20<sup>th</sup> – April 24<sup>th</sup> 2020

Parent/Student Work Directions: Math

Paquete de la Semana 4 de Sexto Grado

20 de Abril - 24 de Abril

Instrucciones de Trabajo para Padres/Estudiantes:

Matemáticas





## Parent/Student Directions - Instrucciones para padres / estudiantes

Math: April 20<sup>th</sup>- April 24<sup>th</sup>, 2020

### Monday/Lunes:

- Today's lesson will focus on the surface area of triangular prisms.
- Starting on p. 773, fill in the table by drawing the sides of the ramp and naming the shape of each face.
- Then, read and answer the questions on p. 774-775 making sure to focus on the concept box if you need help.
- After these pages have been completed, complete the Guided Practice problems on p. 776, the Independent Practice problems 1-9 on p. 777-778 and then Hot Problems #10-12 on p. 778.
- If you are having trouble, here is a link to a video explaining the topic:  
<https://www.youtube.com/watch?v=7YInNiIzK9o>

- La lección de hoy se centrará en la superficie de los prismas triangulares.
- Comenzando en la pág. 773, llene la tabla dibujando los lados de la rampa y nombrando la forma de cada cara.
- Luego, lea y responda las preguntas de la pág. 774-775 asegurándose de enfocarse en el cuadro de concepto si necesita ayuda.
- Después de completar estas páginas, complete los problemas de Práctica guiada en la pág. 776, los problemas de práctica independiente 1-9 en p. 777-778 y luego Hot Problems # 10-12 en la pág. 778.
- Si tiene problemas, aquí hay un enlace a un video que explica el tema:  
<https://www.youtube.com/watch?v=7YInNiIzK9o>

### Tuesday/Martes:

- Today's lesson will focus on the surface area of pyramids.
- Starting on p. 783, complete the Real-World Link questions based on the Museum description.
- Then, read and answer the questions on p. 784-785 making sure to focus on the concept box if you need help.
- After these pages have been completed, complete the Guided Practice problems on p. 786, the Independent Practice problems 1-10 on p. 787-788 and then Hot Problems #11-13 on p. 788.
- If you are having trouble, here is a link to a video explaining the topic:  
<https://www.youtube.com/watch?v=jzy-jMVqVkl>

- La lección de hoy se centrará en la superficie de las pirámides.
- Comenzando en la pág. 783, complete las preguntas de Real-World Link basadas en la descripción del museo.
- Luego, lea y responda las preguntas de la pág. 784-785 asegurándose de enfocarse en el cuadro de concepto si necesita ayuda.
- Después de completar estas páginas, complete los problemas de Práctica guiada en la pág. 786, los problemas de práctica independiente 1-10 en p. 787-788 y luego Hot Problems # 11-13 en la pág. 788.
- Si tiene problemas, aquí hay un enlace a un video que explica el tema:  
<https://www.youtube.com/watch?v=jzy-jMVqVkl>

### Wednesday/Miercoles:

- Today's lesson will focus on finding the mean.
- Starting on p. 809, complete the Real-World Link questions based on the Music description.
- Then, read and answer the questions on p. 810-811 making sure to focus on the concept box if you need help.
- After these pages have been completed, complete the Guided Practice problems on p. 812, the Independent Practice problems 1-6 on p. 81-814 and then Hot Problems #7-9 on p. 814.
- If you are having trouble, here is a link to a video explaining the topic:  
<https://www.youtube.com/watch?v=B1HEzNTGeZ4>

- La lección de hoy se centrará en encontrar la media.
- Comenzando en la pág. 809, complete las preguntas de Real-World Link basadas en la descripción de Music.
- Luego, lea y responda las preguntas de la pág. 810-811 asegurándose de enfocarse en el cuadro de concepto si necesita ayuda.
- Después de completar estas páginas, complete los problemas de Práctica guiada en la pág. 812, los problemas de práctica independiente 1-6 en la p. 81-814 y luego Hot Problems # 7-9 en la pág. 814.
- Si tiene problemas, aquí hay un enlace a un video que explica el tema:  
<https://www.youtube.com/watch?v=B1HEzNTGeZ4>

### Thursday/Jueves:

- This is a catch-up day.
- Students can use the day complete any unfinished assignments and get any questions answered they may have by their teacher.
- You can ask me questions through phone, email or Dojo. Use the rest of your day to "sharpen the saw!"

- Este es un día de recuperación.
- Los estudiantes pueden usar el día para completar cualquier tarea no terminada y obtener cualquier pregunta que su maestro pueda responder.
- Puede hacerme preguntas por teléfono, correo electrónico o Dojo. Use el resto de su día para "afilarse la sierra".

### Friday/Viernes:

- Today's lesson will focus on finding the area of triangles.
- Using the ATI Galileo pages, read through the Determine the Area of Triangles slides and answering the questions that go with each slide.
- The information in the slides before the questions will help you if you are having trouble.
- Complete the Evaluate Algebraic Expression w/ Substitution Test after going through the slides.

- La lección de hoy se centrará en encontrar el área de triángulos.
- Utilizando las páginas de ATI Galileo, lea las diapositivas Determine el área de triángulos y responda las preguntas que acompañan a cada diapositiva.
- La información en las diapositivas antes de las preguntas lo ayudará si tiene problemas.
- Complete la Prueba de evaluación de expresión algebraica con sustitución después de pasar por las diapositivas.

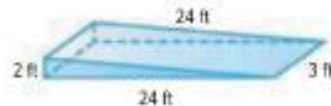


# Surface Area of Triangular Prisms



## Real-World Link

**Ramp** Raj and his dad are building a ramp to move his dirt bike onto a trailer.



Fill in the table by drawing the sides of the ramp and naming the shape of each face.

|    | Face   | Draw the Face | Shape of the Face |
|----|--------|---------------|-------------------|
| 1. | Front  |               |                   |
| 2. | Back   |               |                   |
| 3. | Top    |               |                   |
| 4. | Bottom |               |                   |
| 5. | Side   |               |                   |

### Essential Question

HOW is shape important when measuring a figure?

### Common Core State Standards

Content Standards

6.G.4

MP Mathematical Practices

1, 2, 3, 4, 6



Which **MP** Mathematical Practices did you use?

Shade the circle(s) that applies.

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Persevere with Problems | <input type="checkbox"/> 5 Use Math Tools         |
| <input type="checkbox"/> 2 Reason Abstractly       | <input type="checkbox"/> 6 Attend to Precision    |
| <input type="checkbox"/> 3 Construct an Argument   | <input type="checkbox"/> 7 Make Use of Structure  |
| <input type="checkbox"/> 4 Model with Mathematics  | <input type="checkbox"/> 8 Use Repeated Reasoning |



## Key Concept

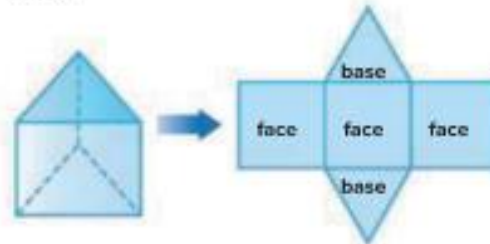
## Surface Area of a Triangular Prism

Work Zone

### Words

The surface area of a triangular prism is the sum of the areas of the two triangular bases and the three rectangular faces.

### Model



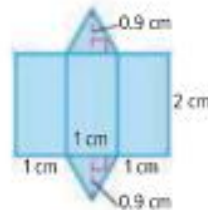
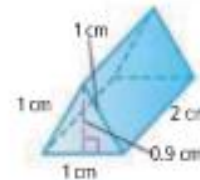
A triangular prism is a prism that has triangular bases. When the bases are equilateral triangles, the areas of the three rectangular faces are equal. You can use a net to find the surface area of a triangular prism.

## Example



### 1. Find the surface area of the triangular prism.

To find the surface area of the triangular prism, find the area of each face and add.



$$\text{area of each triangular base: } \frac{1}{2}(1)(0.9) = 0.45$$

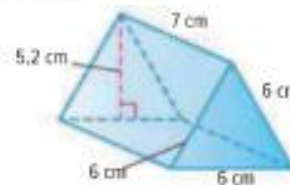
$$\text{area of each rectangular face: } 1(2) = 2$$

Add to find the surface area.

$$0.45 + 0.45 + 2 + 2 + 2 = 6.9 \text{ square centimeters}$$

### Got it? Do this problem to find out.

- a. Find the surface area of the triangular prism.





## Surface Area of Other Triangular Prisms

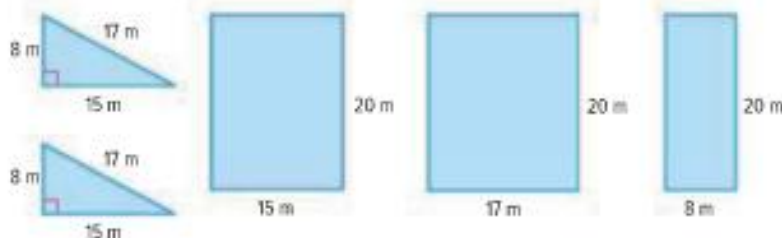
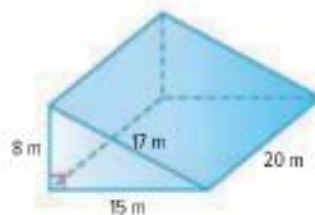
You can also find the surface area of any triangular prism by adding the areas of all the sides of the prism using an orthogonal drawing.

### Example



2. Find the surface area of the triangular prism.

Find the area of each face and add.  
For this prism, each rectangular face has a different area.



$$\text{area of each triangular base: } \frac{1}{2}(15)(8) = 60$$

$$\text{area of the rectangular faces: } 15(20) = 300$$

$$17(20) = 340$$

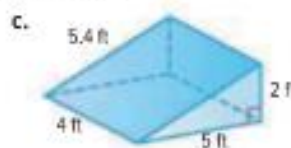
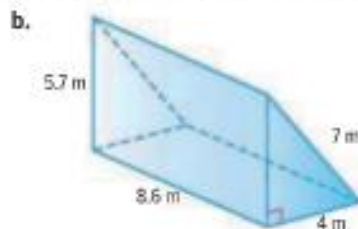
$$8(20) = 160$$

Add to find the surface area.

$$60 + 60 + 300 + 340 + 160 = 920 \text{ square meters}$$

**Got it?** Do this problem to find out.

Find the surface area of each triangular prism.



Check your work.

b. \_\_\_\_\_

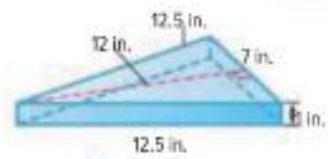
c. \_\_\_\_\_



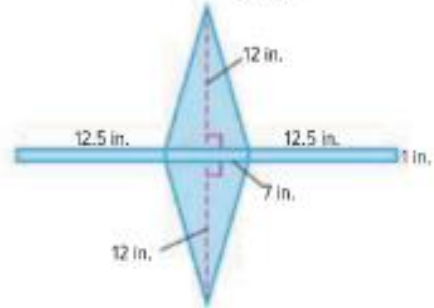
### Example



3. A bakery boxes pastries in a triangular prism box, as shown. Find the amount of cardboard used to make a pastry box.



Sketch and label the bases and faces of the triangular prism. Then add the areas of the polygons.



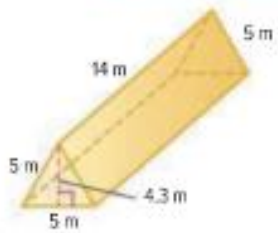
$$\begin{aligned} \text{Surface area} &= 2\left(\frac{1}{2} \cdot 7 \cdot 12\right) + 2(1 \cdot 12.5) + (1 \cdot 7) \\ &= 84 + 25 + 7 \text{ or } 116 \end{aligned}$$

So, 116 square inches of cardboard is needed to make a box.

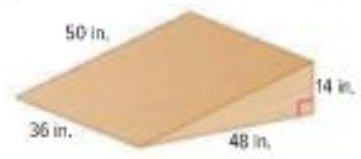
### Guided Practice



1. Find the surface area of the triangular prism. (Examples 1–2)



2. A skateboarding ramp is in the shape of a triangular prism. If the entire ramp is to be painted, what is the surface area to be painted? (Example 3)



3. **e Building on the Essential Question** How is the area of a rectangle related to the surface area of a triangular prism?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Rate Yourself!

How confident are you about surface area of triangular prisms? Check the box that applies.



For more help, go online to access a Personal Tutor.



**FOLDABLES** Time to update your foldable!

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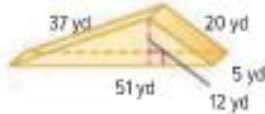
# Independent Practice

Go online for Step-by-Step Solutions

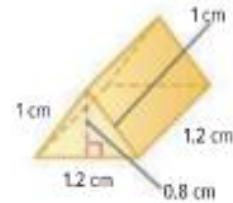


Find the surface area of each triangular prism. (Examples 1–2)

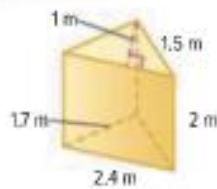
1. \_\_\_\_\_



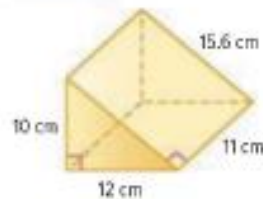
2. \_\_\_\_\_



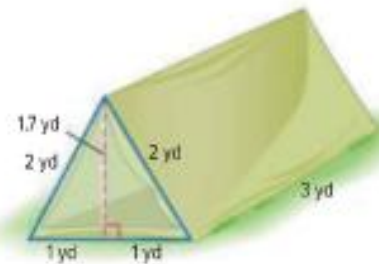
3



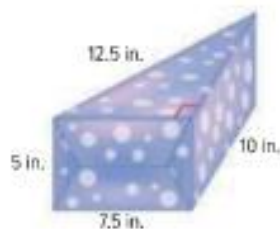
4. \_\_\_\_\_



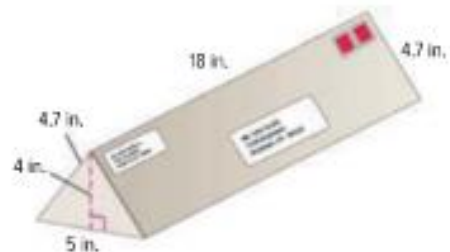
5 A tent is in the shape of a triangular prism. About how much canvas, including the floor, is used to make the tent? (Example 3)



6 A decorative gift box is in the shape of a triangular prism as shown. What is the surface area of the box? (Example 3)

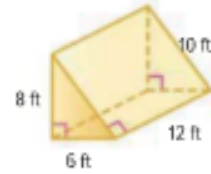


7 A mailer for posters is a triangular prism as shown. Find the surface area of the mailer. (Example 3)





8. **MP Multiple Representations** The figure shows the dimensions of a triangular prism.



- a. **Models** Draw a model of the faces and bases of the triangular prism.



- b. **Words** Describe the triangular prism. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- c. **Numbers** Find the surface area of the triangular prism using addition.  
\_\_\_\_\_  
\_\_\_\_\_

9. The surface area of a right triangular prism is 228 square inches. The base is a right triangle with a base height of 6 inches and a base length of 8 inches. The length of the third side of the base is 10 inches. Find the height of the prism. \_\_\_\_\_

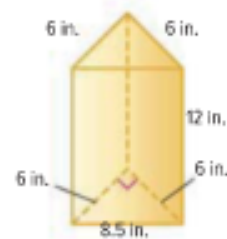


### H.O.T. Problems Higher Order Thinking

10. **MP Reason Abstractly** Describe the dimensions of a triangular prism that has a surface area between 550 square inches and 700 square inches.  
\_\_\_\_\_  
\_\_\_\_\_

11. **MP Persevere with Problems** Sketch and label two triangular prisms such that one has a greater volume and the other has a greater surface area.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. **MP Justify Conclusions** Gary is painting a decorative box with the dimensions shown at the right. A can of paint covers about 25 square feet. Does he have enough to paint the rectangular faces of his box with three coats of paint? Justify your answer.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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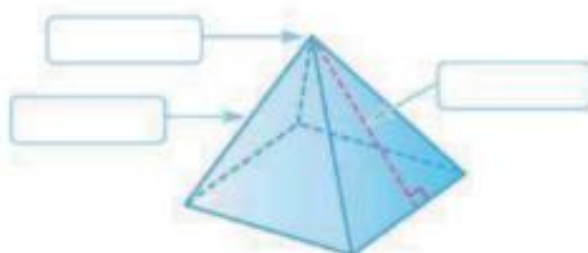
# Surface Area of Pyramids

## Vocabulary Start-Up



A **pyramid** is a three-dimensional figure with at least three triangular sides that meet at a common **vertex** and only one **base** that is a polygon. The triangular sides of a square pyramid are called the **lateral faces**. The **slant height** is the height of each lateral face.

Fill in the blanks on the diagram below with vocabulary words.



## Essential Question

HOW is shape important when measuring a figure?



## Vocabulary

pyramid  
vertex  
base  
lateral face  
slant height



## Common Core State Standards

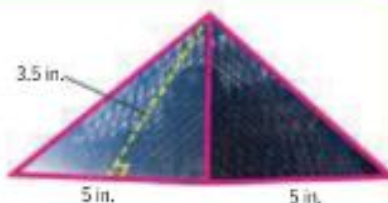
Content Standards  
6.G.4

MP Mathematical Practices  
1, 3, 4, 6, 7



## Real-World Link

**Museum** Claude made a model of the large pyramid in front of the Louvre museum. His model is shown.



1. Draw the faces of the pyramid.

base lateral face lateral face lateral face lateral face

Which **MP Mathematical Practices** did you use?

Shade the circle(s) that applies.

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Persevere with Problems | <input type="checkbox"/> 5 Use Math Tools         |
| <input type="checkbox"/> 2 Reason Abstractly       | <input type="checkbox"/> 6 Attend to Precision    |
| <input type="checkbox"/> 3 Construct an Argument   | <input type="checkbox"/> 7 Make Use of Structure  |
| <input type="checkbox"/> 4 Model with Mathematics  | <input type="checkbox"/> 8 Use Repeated Reasoning |





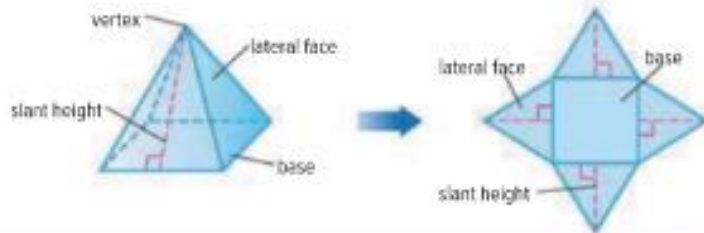
### Key Concept

## Surface Area of a Pyramid

Work Zone

**Words** The surface area of a pyramid is the sum of the area of the base and the areas of the lateral faces.

**Model**



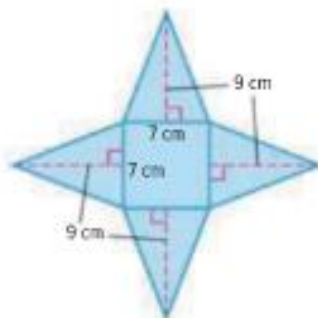
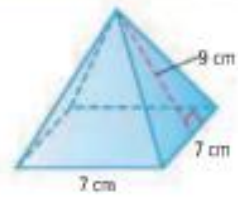
Some pyramids have square or rectangular bases. You can use a net to find the surface area of a pyramid.

### Example



**1. Find the surface area of the pyramid.**

Use a net to find the area of each face and then add.



area of base:  $7(7) = 49$

area of each triangular side:  $\frac{1}{2}(7)(9) = 31.5$

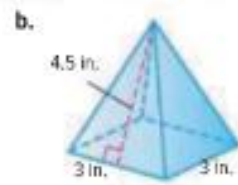
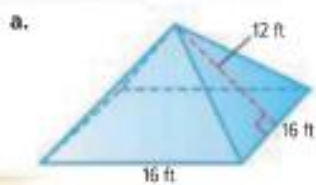
Add to find the surface area.

$49 + 31.5 + 31.5 + 31.5 + 31.5 = 175$  square centimeters

### Got it? Do these problems to find out.

a. \_\_\_\_\_

b. \_\_\_\_\_





## Surface Area of Pyramids with Triangular Bases

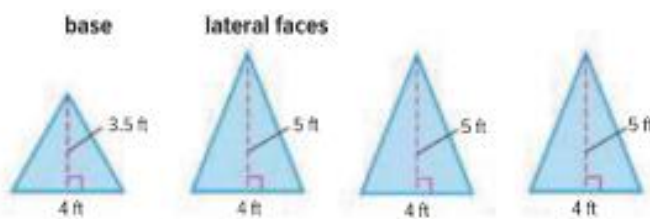
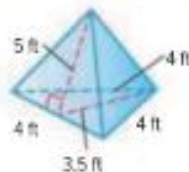
A triangular pyramid has one triangular base, and three triangular faces. If the base is an equilateral triangle, all three lateral faces are congruent. If the sides of the base triangle are different lengths, the areas of the lateral faces will also vary.

### Example



#### 2. Find the surface area of the pyramid.

Find the area of each face and add. The triangular base is an equilateral triangle because all three sides are 4 feet long.



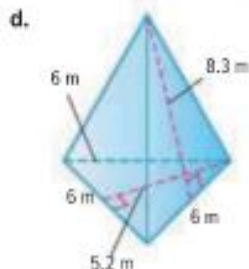
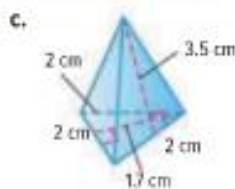
$$\text{area of base: } \frac{1}{2}(4)(3.5) = 7$$

$$\text{area of each lateral face: } \frac{1}{2}(4)(5) = 10$$

Add to find the surface area.

$$7 + 10 + 10 + 10 = 37 \text{ square feet}$$

### Got it? Do these problems to find out.



c. \_\_\_\_\_

d. \_\_\_\_\_



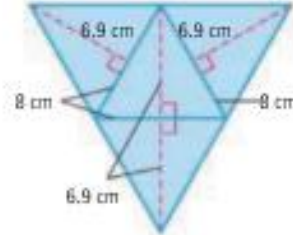
### Example



3. A pyramid puzzle has all sides that are equilateral triangles. Each triangle has side lengths of 8 centimeters. The slant height is 6.9 centimeters. Find the surface area of the puzzle.

Create a net and then use it to find the surface area of the pyramid.

Each face has an area of  $\frac{1}{2}(8)(6.9)$  or 27.6 square centimeters. So, the surface area of the puzzle is  $4 \cdot 27.6$  or 110.4 square centimeters.

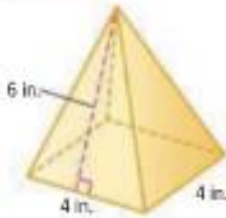


### Guided Practice

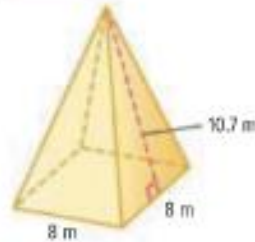


Find the surface area of each pyramid. (Examples 1–2)

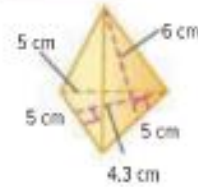
1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_



4. Pyramid-shaped gift boxes have square bases that measure 5 inches on each side. The slant height is 6.5 inches. How much cardboard is used to make each box? (Example 3)

\_\_\_\_\_

5. **Building on the Essential Question** How do you use the area of a triangle to find the surface area of a triangular pyramid?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Rate Yourself!

I understand surface area of pyramids.

▶▶ Great! You're ready to move on!

I still have questions about surface area of pyramids.

📖 No Problem! Go online to access a Personal Tutor.



**FOLDABLES!** Time to update your Foldable!

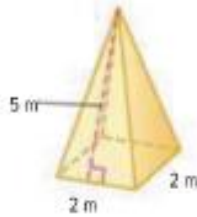
## Independent Practice

Go online for Step-by-Step Solutions

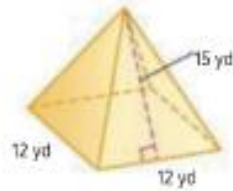


Find the surface area of each pyramid. (Examples 1–2)

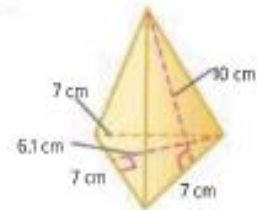
1. \_\_\_\_\_



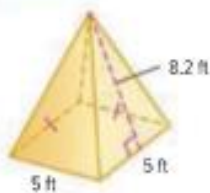
2. \_\_\_\_\_



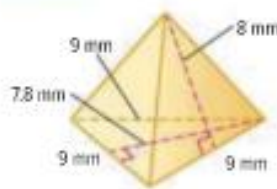
3. \_\_\_\_\_



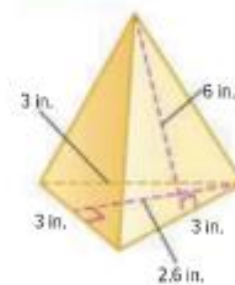
4. \_\_\_\_\_



5. \_\_\_\_\_



6. \_\_\_\_\_



- 7** A tea bag is shaped like a square pyramid with the base measuring 4 centimeters on each side. The slant height is 4.5 centimeters. How much mesh is used to create the tea bag? (Example 3)



- 8.** An earring design is shaped like a triangular pyramid. All the faces are equilateral triangles with side lengths of 14 millimeters. The slant height is 12.1 millimeters. What is the surface area of the earring? (Example 3)
- 9.** An acting award is a square pyramid with a base that measures 6 inches on each side. The slant height is 8 inches. What is the surface area of the award? (Example 3)



10. **MF Identify Structure** Refer to the figures listed in the table. Determine the number of faces the figure has of each two-dimensional shape. Explain.

| Figure             | Rectangular Faces | Triangular Faces |
|--------------------|-------------------|------------------|
| Rectangular Prism  |                   |                  |
| Triangular Prism   |                   |                  |
| Square Pyramid     |                   |                  |
| Triangular Pyramid |                   |                  |

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### H.O.T. Problems Higher Order Thinking

11. **MF Find the Error** Pilar is finding the surface area of the pyramid shown. Find her mistake and correct it.

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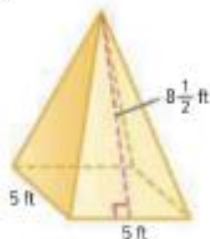
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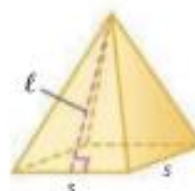


$$25 + 25 + (4 \cdot 21.25) = 135 \text{ ft}^2$$



12. **MF Persevere with Problems** The *lateral surface area*  $L.A.$  of a pyramid is the area of its lateral faces. Use the square pyramid at the right to complete each step to find the lateral surface area of any pyramid.

$$\begin{aligned}
 L.A. &= \frac{1}{2} s\ell + \underline{\hspace{2cm}} && \text{Lateral surface area} \\
 &= \frac{1}{2} (\underline{\hspace{2cm}}) \ell && \text{Distributive Property} \\
 &= \underline{\hspace{2cm}} && \text{Perimeter of base: } P = s + s + s + s
 \end{aligned}$$



13. **MI Justify Conclusions** Suppose you could climb to the top of the Pyramid Arena in Memphis, Tennessee. Which path would be shorter, climbing a lateral edge or the slant height? Justify your response.

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# Lesson 1

## Mean



### Real-World Link



**Music** Tina and her friends downloaded songs for 6 weeks, as shown in the table below.

| Number of Songs Downloaded Each Week |   |    |   |   |   |
|--------------------------------------|---|----|---|---|---|
| 12                                   | 6 | 10 | 9 | 4 | 1 |

- How many total songs were downloaded? \_\_\_\_\_
- On average, how many songs did they download each week?

$$\boxed{\phantom{000}} \div \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

total                  number                  average  
of weeks                  per week

- On the number line below, draw an arrow that points to the average. Plot the number of songs downloaded on the number line.



- How far below the average is 1? 4? 6? How far above the average is 9? 10? 12? \_\_\_\_\_
- What is the sum of the distances between the average and the points below the average? above the average? \_\_\_\_\_
- Explain why the average is the balance point of the data.

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Which **MP** **Mathematical Practices** did you use?  
Shade the circle(s) that applies.

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Persevere with Problems | <input type="checkbox"/> 5 Use Math Tools         |
| <input type="checkbox"/> 2 Reason Abstractly       | <input type="checkbox"/> 6 Attend to Precision    |
| <input type="checkbox"/> 3 Construct an Argument   | <input type="checkbox"/> 7 Make Use of Structure  |
| <input type="checkbox"/> 4 Model with Mathematics  | <input type="checkbox"/> 8 Use Repeated Reasoning |

### Essential Question

HOW are the mean, median, and mode helpful in describing data?

### Vocabulary

mean  
average

### Common Core State Standards

**Content Standards**  
6.SP.3

**MP** **Mathematical Practices**  
1, 2, 3, 4, 6



Lesson 1 Mean 809



# Key Concept

# Mean

The **mean** of a data set is the sum of the data divided by the number of pieces of data. It is the balance point for the data set.

Work Zone

On the previous page, you found a single number to describe the number of songs downloaded each week. The **average**, or mean, summarizes the data using a single number.

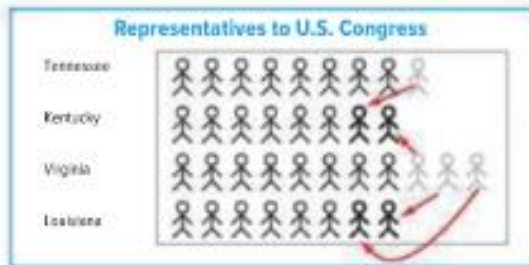
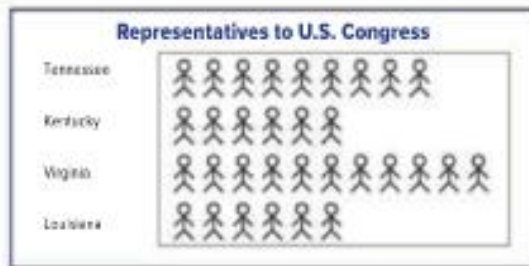
You can find the mean of a set of data shown in different displays such as pictographs and dot plots.



## Example



- 1. Find the mean number of representatives for the four states shown in the pictograph.



Move the figures to equally distribute the total number of representatives among the four states.

Each state has a mean or average of 8 representatives.

### Including Data

Even if a data value is 0, it still should be counted in the total number of pieces of data.



a. \_\_\_\_\_

### Got it? Do this problem to find out.

- a. The table shows the number of CDs a group of friends bought. Find the mean number of CDs the group bought.

| Number of CDs Purchased |   |   |
|-------------------------|---|---|
| 3                       | 4 | 6 |
| 0                       | 2 |   |

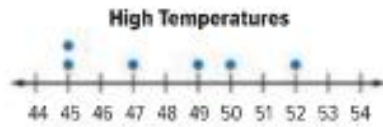
Copyright © McGraw-Hill Education



## Examples



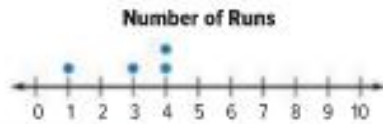
2. The dot plot shows the recorded high temperatures for six days in Little Rock, Arkansas. Find the mean temperature.



$$\begin{aligned} \text{mean} &= \frac{45 + 45 + 47 + 49 + 50 + 52}{6} && \leftarrow \text{sum of the data} \\ &= \frac{288}{6} \text{ or } 48 && \leftarrow \text{number of data items} \\ &&& \text{Simplify.} \end{aligned}$$

The mean is 48 degrees. So, all of the data values can be summarized with a single number, 48.

3. The dot plot shows the number of runs a baseball team had for each game of a 4-game series. Find the mean number of runs for the series.



$$\begin{aligned} \text{mean} &= \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}} && \leftarrow \text{sum of the data} \\ &= \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \text{ or } \boxed{\phantom{00}} && \leftarrow \text{number of data items} \\ &&& \text{Simplify.} \end{aligned}$$

The mean number of runs for the series is .

**Got it?** Do this problem to find out.

- b. The dot plot shows the number of books Deanna read each week of a reading challenge. Find the mean number of books she read.



**Dot Plots**

In a dot plot, individual data values are represented as dots above a number line.

Click here to work.

b. \_\_\_\_\_



### STOP and Reflect

The mean is sometimes described as the balance point. Explain below what this means using the data set {2, 2, 3, 8, 10}.



### Example



4. The number of minutes Marielle spent talking on her cell phone each month for the past five months were 494, 502, 486, 690, and 478. Suppose the mean for six months was 532 minutes. How many minutes did she talk on her cell phone during the sixth month?

If the mean is 532, the sum of the six pieces of data must be  $532 \times 6$  or 3,192. You can create a bar diagram.

|                 |     |     |     |     |   |
|-----------------|-----|-----|-----|-----|---|
| -----3,192----- |     |     |     |     |   |
| 494             | 502 | 486 | 690 | 478 | ? |

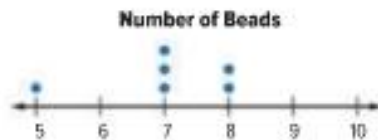
$$3,192 - (494 + 502 + 486 + 690 + 478) = 3,192 - 2,650 = 542$$

Marielle talked 542 minutes during the sixth month.

### Guided Practice



1. The dot plot shows the number of beads sold. Find the mean number of beads. (Examples 1–3)



2. The table shows the greatest depths of four of the five oceans in the world. If the average greatest depth is 8.094 kilometers, what is the greatest depth of the Southern Ocean? (Example 4)

| Ocean    | Greatest Depth (km) |
|----------|---------------------|
| Pacific  | 10.92               |
| Atlantic | 9.22                |
| Indian   | 7.46                |
| Arctic   | 5.63                |
| Southern | ■                   |

3. **Building on the Essential Question** Why is it helpful to find the mean of a data set?

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### Rate Yourself!

How confident are you about finding the mean of a data set? Check the box that applies.



For more help, go online to access a Personal Tutor.



**FOLDABLES** Time to update your Foldable!

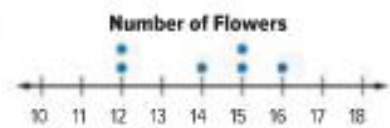
# Independent Practice

[Go online for Step-by-Step Solutions](#)


Find the mean for each data set. (Examples 1–3)



2.



- 3. Financial Literacy** Jamila babysat nine times. She earned \$15, \$20, \$10, \$12, \$20, \$16, \$80, and \$18 for eight babysitting jobs. How much did she earn the ninth time if the mean of the data set is \$24? (Example 4)

- 4. MP Model with Mathematics** Refer to the graphic novel frame below for Exercises a–b.



- a. What is the mean number of wins for the Cranes? for the Panthers?

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- b. Based on your answer for part a, is the mean a good measure for determining which team has the better record? Explain.

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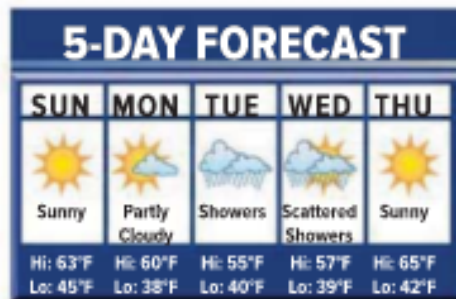


5. A *stem-and-leaf plot* is a display that organizes data from least to greatest. The digits of the least place value form the leaves, and the next place-value digits form the stems. The stem-and-leaf plot shows Marcia's scores on several tests. Find the mean test score.

| Stem | Leaf  |
|------|-------|
| 7    | 8     |
| 8    | 5 8 9 |
| 9    | 2 6   |

$718 = 78$

6. **MP: Multiple Representations** The graphic shows the 5-day forecast.



- a. **Numbers** What is the difference between the mean high and mean low temperature for this 5-day period? Justify your answer.

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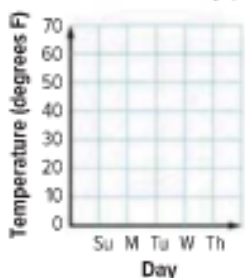


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- b. **Graph** Make a double-line graph of the high and low temperatures for the 5-day period.



### H.O.T. Problems Higher Order Thinking



7. **MP: Reason Abstractly** Create a data set that has five values. The mean of the data set should be 34. \_\_\_\_\_
8. **MP: Persevere with Problems** The mean of a set of data is 45 years. Find the missing numbers in the data set {40, 45, 48, ?, 54, ?, 45}. Explain the method or strategy you used.
9. **MP: Reason Inductively** If 99 students had a mean quiz score of 82, how much is the mean score increased by the addition of a single score of 99? Explain.

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## Determine the Area of Triangles

### Slide 1

### What You Will Learn

You will learn how to find the area of a triangle.

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### Slide 2

### Key Words

triangle - three-sided polygon (shape)

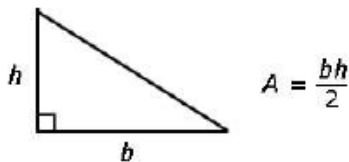
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### Slide 3

### How to Find the Area of a Triangle - Part 1

When finding the area of a triangle, you need two things, the length of the base and the height.

You will multiply the base and the height together. The product is then divided by 2.



Determine the Area of Triangles

### Slide 4

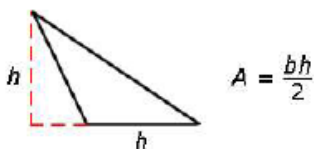
### How to Find the Area of a Triangle - Part 2

In our previous example, we saw the height being the length of one of the sides of the triangle. The height is not always one of the sides.

The height is the distance from the base to the highest point of the triangle. It cannot be measured by the length of one of the slanted sides of the triangle.

This difference does not affect the area. We will still use the same equation to find the area of the triangle.

Looking at our example below, we see that the height is not a length of one of the sides of the triangle.

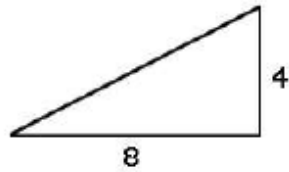


**Slide 5**

**Examples**

The following are two examples of finding the area of a triangle.

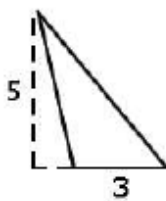
$$A = \frac{bh}{2}$$



$$b = 8$$
$$h = 4$$

$$A = \frac{(8)(4)}{2}$$
$$= \frac{32}{2}$$
$$= 16$$

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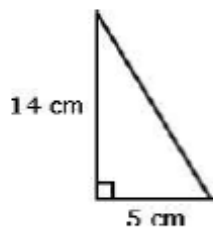


$$b = 3$$
$$h = 5$$

$$A = \frac{(3)(5)}{2}$$
$$= \frac{15}{2}$$
$$= 7.5$$

**Slide 6**

What is the area of the triangle shown below?

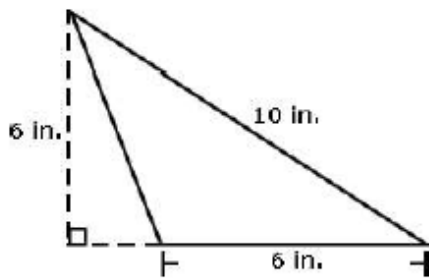


- A) 15 square centimeters
- B) 19 square centimeters
- C) 35 square centimeters
- D) 70 square centimeters



**Slide 7**

What is the area of the triangle shown below?



- A) 12 square inches
- B) 18 square inches
- C) 22 square inches
- D) 36 square inches

---

**Slide 8**

**What You Learned**

You learned how to find the area of a triangle.

## Evaluate Algebraic Expression w/ Substitution Test

What is the value of the expression below, when  $\Delta = 24$  ?

1)

$$\frac{\Delta}{4} - 4$$

- A) 0
- B) 2
- C) 6
- D) 20