

Lesson 131

Skills:

- Develop keyboarding skills.
- Learn new sight words.
- Identify the number of syllables in a word.
- Identify an antecedent.
- Demonstrate evidence of literal and inferential comprehension.
- Learn about Arizona.
- Recall the capital cities and postal abbreviations of states.
- Identify locations on a map.
- Memorize the names of the fifty states.
- Find the perimeter and area of composite figures.
- Graph points on a coordinate plane.
- Solve an equation for a given variable.
- Use variables in contextual situations.
- Multiply and divide fractions.
- Identify music symbols and note names.

Materials:

- ❖ Computer
- ❖ Dice
- ❖ Sight word flashcards: aeronautics, aviation, Eisenhower, granite
- ❖ *Where the Red Fern Grows*, by Wilson Rawls
- ❖ Worksheets 73a, 103b, 123b, 129a, 129b, 129c, 131, 131a
- ❖ Index cards
- ❖ Bingo chips or coins

Language Arts/Social Studies:

- ❖ Use flashcards to introduce the sight words: aeronautics, aviation, Eisenhower, granite.
 - Have the child choose ten words.
 - Have him write four sentences using as many of the ten words as he can. One sentence should be a statement, one a question, one a quotation, and one an exclamation. Check for correct punctuation in each sentence and a capital letter at the beginning of each sentence. Also check for correct spelling. If anything is incorrect, have the child draw a line through the incorrect answer and write the correct answer above or next to it.
- ❖ Worksheet 131, part A: Have the child read about antecedents.

The antecedent is the noun or noun phrase to which the pronoun refers. The antecedent usually goes before the pronoun.

Stacy read the letter, and then she passed it to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

Often the antecedent is in an earlier sentence.

Stacy received a letter in today's mail. She waited until after dinner to read it to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

Occasionally the antecedent comes after the pronoun.

Although she got it at noon, Stacy waited until after dinner to read the letter to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

- Have the child write the antecedent for each underlined pronoun.

Answers:

- 1) *puppies*
- 2) *Mama*
- 3) *Little Ann and Old Dan*
- 4) *Billy*
- 5) *Papa, nail*

- ❖ Worksheet 131, part B: Have the child read the words and then write them in the correct category according to the number of syllables in each word.

Answers:

<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<i>ensure</i>	<i>commercial</i>	<i>contiguous</i>	<i>geological</i>
	<i>potential</i>	<i>designated</i>	<i>opportunity</i>
	<i>prospective</i>	<i>accommodate</i>	<i>investigations</i>
	<i>preventing</i>	<i>elevation</i>	
	<i>efficient</i>	<i>accessible</i>	
	<i>residents</i>	<i>substantially</i>	
		<i>disassembled</i>	
		<i>reconstructing</i>	

- The mode of the set of data is four syllables.
- Have the child read about Arizona and then answer the questions.

Answers:

- 1) *Arizona was the last contiguous state to be added to America.*
- 2) *Grand Canyon National Park is located in the northwest part of Arizona.*
- 3) *The Colorado River runs through the Grand Canyon.*
- 4) *The Grand Canyon was designated as a National Park by an act of Congress on February 26, 1919.*
- 5) *President Franklin Roosevelt initiated the first steps to ensure aviation safety by signing the Civil Aeronautics Act in 1938.*
- 6) *Two commercial airplanes collided over the Grand Canyon, killing all 128 occupants.*
- 7) *The Havasupai Indians village is the only location in the United States where mail is still delivered by mule.*
- 8) *The London Bridge was relocated to Arizona. Each of the bridge's 10,276 exterior granite blocks was numbered before the bridge was disassembled. After it was dismantled, the blocks from the original bridge were shipped through the Panama Canal to California and then trucked to Lake Havasu City.*

- ❖ Worksheet 131, part C: Have the child read the fun facts about Arizona.

- The three other states at the Four Corners Monument: (*Colorado, New Mexico, and Utah*)

- ❖ Worksheet 131, part D: Have the child mark the capital on the map of Arizona and then draw a silly picture to help remember the capital city.



- ❖ Worksheet 131, part E: Have the child read chapters 6-7 in *Where the Red Fern Grows*.

- Have the child tell the significance of the pups' names and the location in which the names were chosen. (*Answers will vary. Compare your child's answer to the information in the book.*)
- Have the child draw a picture of the location based on the description in the book.

- ❖ Worksheet 131, part F: Have the child color the state of Arizona on the map on worksheet 129a.

- ❖ Worksheet 131, part G: Have the child use books or online resources to gather information about Arizona and then fill in the chart on worksheet 129b.

- ❖ Worksheet 131, part H: Have the child complete each practice exercise on worksheet 129c again. Have him find a balance between accuracy and speed. Have him time himself, check his work, and record his daily progress on worksheet 73a.

❖ Play State Capitals Memory.

- Have the child write the cities, the states, and the postal abbreviation on index cards. Write one word on each index card.
- Use the two of each group of state, capital city, and abbreviation index cards.

Hartford, Connecticut: CT	Trenton, New Jersey: NJ	Little Rock, Arkansas: AR
Dover, Delaware: DE	Montgomery, Alabama: AL	Annapolis, Maryland: MD
Atlanta, Georgia: GA	Harrisburg, Pennsylvania: PA	Concord, New Hampshire: NH
Jackson, Mississippi: MS	Augusta, Maine: ME	Tallahassee, Florida: FL
Frankfort, Kentucky: KY	Columbia, South Carolina: SC	Raleigh, North Carolina: NC
- Lay the cards face down in even rows.
- Player one turns over two cards. Have the player read the words he chose.
- If the cards are part of a group, set them aside. (For example: Annapolis and MD)
- If the cards do not match, put them back face down.
- Player two does the same.
- When all of the cards have been matched, count to see which player has more matches.
- * Use sets of three cards for each match: the capital city, the state name, and the postal abbreviation.

Math:

❖ Worksheet 131a, part A: Have the child find the perimeter and area of the composite figures.

Answers:

1) *Perimeter:* $65 + 32 + 17 + 18 + 17 + 18 + 15 = 182$; 182 feet

Area: blue rectangle

$$36 \cdot 15 = 540$$

Area: green rectangle

$$18 \cdot 17 = 306$$

Area: triangle

$$\frac{1}{2}(15 \cdot 29) = 217.5$$

Total area of composite figure:

$$540 + 306 + 217.5 = 1,063.5; 1,063.5 \text{ feet}^2$$

2) *Perimeter:* $9 + 4 + 9 + 4 + 9 + 8 + 9 + 12 + 9 + 4 + 9 + 4 + 9 + 8 + 9 + 12 = 128$; 128 cm

Area: red rectangle

$$12 \cdot 9 = 108$$

Area: purple rectangle

$$16 \cdot 9 = 144$$

Area: blue rectangle

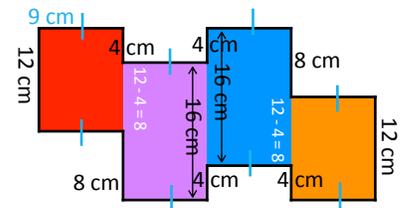
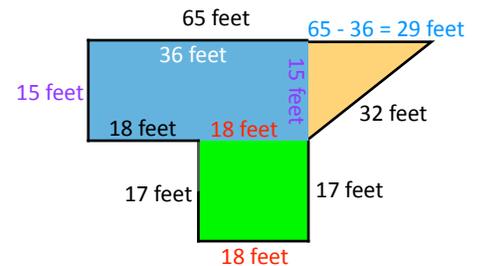
$$16 \cdot 9 = 144$$

Area: orange rectangle

$$12 \cdot 9 = 108$$

Total area of composite figure:

$$108 + 144 + 144 + 108 = 504; 504 \text{ cm}^2$$



Challenge:

First find the circumference and perimeter of the semi-circle in the composite figure. Use one half of the circumference and perimeter of a circle.

Circumference: $C = \pi d$

$C = (3.14)(20)$

$C = 62.8$

Circumference of semi-circle = $1/2 (62.8)$

$C = 31.4$

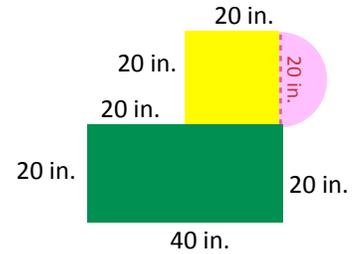
Area: $A = \pi r^2$ (radius = $1/2$ diameter)

$A = (3.14)(10^2)$

$A = 314$

Area of semi-circle = $1/2 (314)$

$A = 157$



Perimeter: $20 + 31.4 + 20 + 40 + 20 + 20 + 20 = 171.4$; 171.4 inches

Area: green rectangle

$40 \cdot 20 = 800$

Area: yellow square

$20 \cdot 20 = 400$

Area: semi-circle = 157

Total area of composite figure:

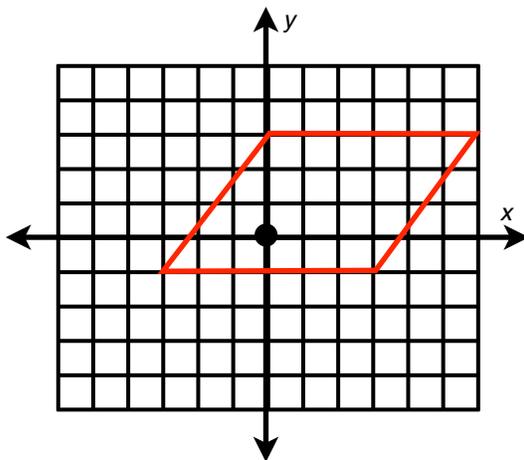
$800 + 400 + 157 = 1,357$; 1,357 inches

- ❖ Worksheet 131a, part B: Have the child graph each figure with the given vertices and then find the area of each.

Answers:

1) $(0, 3), (6, 3), (3, -1), (-3, -1)$

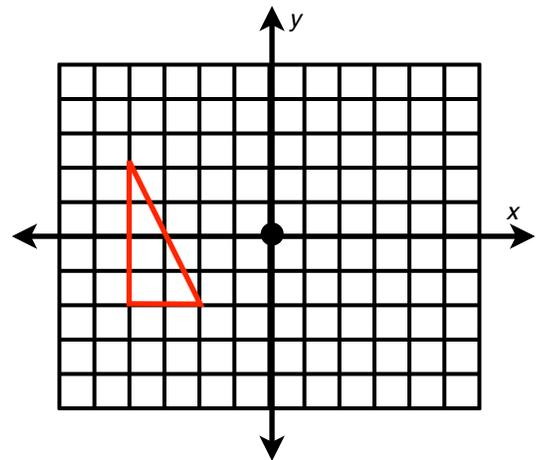
2) $(-4, 2), (-4, -2), (-2, -2)$



$A = bh$

$A = (6)(4)$

$A = 24 \text{ units}^2$



$A = (1/2)bh$

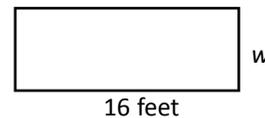
$A = (1/2)(2)(4)$

$A = 4 \text{ units}^2$

- ❖ Worksheet 131a, part C: A missing dimension can be found using an equation and solving for a variable.

The area of a rectangle is 112 square feet. The base length is 16 feet. What is the width?

- Step one: Draw a diagram.
- Step two: Label the known information.
- Step three: Label the unknown information with a variable.
- Step four: Write an equation and solve for the unknown variable.
 - ✦ You are also given the area of the rectangle. $A = \ell w$
 - ✦ Substitute the known values. $112 = 16w$
 - ✦ Solve for the variable.



$$\frac{112}{16} = \frac{16w}{16}$$

$$7 = w$$

- Step five: Substitute the answer to check.

$$112 = (16)(7)$$

$$112 = 112$$

- Step six: Write the answer with a label. The width is 7 feet.

- ❖ Worksheet 131a, part D: Have the child solve each word problem by following the steps in part C. He should show all of his work.

Answers:

1) $A = \ell w$



$$\frac{162}{9} = \frac{(9)\ell}{9} \quad (\text{The coefficient is written before the variable, so the order of the formula is changed.})$$

$$18 = \ell$$

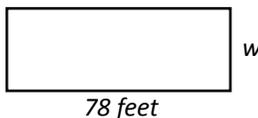
The length equals 18 inches.

2) $A = \ell w$

$$\frac{2,808}{78} = \frac{78w}{78}$$

$$36 = w$$

The width equals 36 feet.

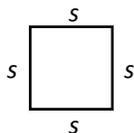


3) $A = \ell w$ or $A = s^2$

$$256 = s^2$$

$$\sqrt{256} = \sqrt{s^2}$$

$$16 = s$$



The side length equals 16 inches.

- ❖ Have the child roll dice and multiply fractions.

- Use two dice. On one of the dice, write the numerals 7, 8, 9, and 0 using a permanent marker.
- Roll the dice.
- Write the smaller number as the numerator and the larger number as the denominator of a fraction.
- Roll the dice again, and write a second fraction.
- Multiply the numerators and multiply the denominators. $\frac{3}{5} \cdot \frac{2}{3} = \frac{3 \cdot 2}{5 \cdot 3} = \frac{6}{15}$
- Reduce the products to lowest terms when needed.

$$\frac{\cancel{3} \cdot 2}{5 \cdot \cancel{3}} = \frac{2}{5}$$

- ❖ Have the child roll dice and divide fractions.

- Roll two dice.
- Write the smaller number as the numerator and the larger number as the denominator of a fraction.
- Roll the dice again, and write a second fraction.
- Write a division expression. $\frac{3}{5} \div \frac{6}{9}$
- Flip the second fraction, and then multiply the two fractions.
- Multiply the numerators and multiply the denominators. $\frac{3}{5} \cdot \frac{9}{6} = \frac{3 \cdot 9}{5 \cdot 6} = \frac{27}{30}$
- Reduce the products to lowest terms when needed.

$$\frac{\cancel{3} \cdot 9}{5 \cdot \cancel{6}_2} = \frac{9}{10}$$

Music:

- ❖ Play music symbol memory using the flashcards.
 - Have the child write each name and music symbol from worksheet 103b on an index card. Do not write on the other side of the index cards.
 - Lay the cards face down in even rows.
 - Player one turns over two cards. Have the child read the cards.
 - If the cards are matching a word and its definition, set them aside.
 - If the cards do not match, put them back face down.
 - Player two does the same.
 - Players continue to alternate turns.
 - When all of the cards have been matched, the player with more matches wins.
- ❖ Play music symbol bingo. Use the game boards from worksheet 123b and the flashcards from worksheet 103b.
 - ♦ Have player one choose a flashcard and identify the symbol or note name.
 - ♦ Each player covers the word with a bingo chip or coin if it is on his game board.
 - ♦ Players alternate turns.
 - ♦ The first player to cover four words in a row, (may be horizontal, vertical, or diagonal), is the winner.
- ❖ Have the child sing the states in alphabetical order to the tune "Oh My Darling, Clementine." (*The words are divided as they are sung to the melody.*)
 - Al-a-bam-a, A- - las-ka, Ar-i-zo-na, Ar-kan-sas,
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - Cal-i-for-nia, Col-or-a-do, Con- -nect-itcut, Del-a-ware
(*You are lost and gone forever, Oh my darling, Clementine*)
 - Then Flori-da, and Geor-gia, Ha- - wai-i, I-da-ho
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - Il-li- nois, In-di-an-a, (*pause*) Io-wa, Kan-sas.
(*You are lost and gone forever, Oh my darling, Clementine*)
 - Ken- tuck-y, Louis-i-an-a, then Maine and Mar-y-land,
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - Mass-a-chu-setts, and Mich-i-gan, Minn-e-so-ta, Mis-si-ssippi.
(*You are lost and gone forever, Oh my darling, Clementine*)
 - Mis- - sou-ri, Mon- - tan-a, Ne- - bras-ka, Ne- - va-da,
(*Oh my darling, Oh my darling, Oh my darling, Clemen-tine- -*)
 - New- - Hamp-shire, New- - Jer-sey, New- - Mexi-co, New- - York.
(*You are lost and gone forever, Oh my darling, Clementine*)
 - North Caro-li-na, North Da-ko-ta, O- - hi-o, Ok-la-homa,
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - Then- - Ore-gon, Penn-syl-va-nia, Rhode- - Is-land, South Caro-lina.
(*You are lost and gone forever, Oh my darling, Clementine*)
 - South Da-ko-ta, Ten-nes- see, then- - Tex-as and- - U-tah,
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - Ver- - mont- -, Vir- - gin-ia, (*pause*) Wash-ing-ton, West Vir-ginia.
(*You are lost and gone forever, Oh my darling, Clementine*)
 - Wis- - con-sin, Wy- - o-ming, that is all our fif-ty states.
(*Oh my darling, Oh my darling, Oh my darling, Clementine*)
 - You have learned- - all the states now, won't you sing them with- - me?
(*You are lost and gone forever, Oh my darling, Clementine*)

name _____



Part A: Read about antecedents.

The antecedent is the noun or noun phrase to which the pronoun refers. The antecedent usually goes before the pronoun.

Stacy read the letter, and then she passed it to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

Often the antecedent is in an earlier sentence.

Stacy received a letter in today's mail. She waited until after dinner to read it to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

Occasionally the antecedent comes after the pronoun.

Although she got it at noon, Stacy waited until after dinner to read the letter to James.

<u>antecedent</u>	<u>pronoun</u>
Stacy	she
letter	it

- Write the antecedent for each underlined pronoun.

- 1) Billy carried the puppies by placing them in a sack. _____
- 2) Mama was relieved to see Billy home safely, and she said a prayer of thanks. _____
- 3) Little Ann and Old Dan were exhausted, so they fell asleep quickly. _____
- 4) After Billy saw the town, he said he had no desire to live there. _____
- 5) Papa held the nail in his hand, and then he hammered it into the log. _____, _____

Part B: Read the words.

geological	contiguous	opportunity	commercial	designated	accommodate
elevation	investigations	accessible	substantially	disassembled	ensure
potential	reconstructing	prospective	preventing	efficient	residents

- Write the words in the correct category according to the number of syllables in each word.

2	3	4	5
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- What is the mode of this set of data? _____

- Read about Arizona.

Arizona came under the control of the United States after our country won the Mexican-American War in 1848. It then became the 48th state in 1912 as the last contiguous state added to our nation. Its capital city, Phoenix, is one of the largest cities in America.

Because the Grand Canyon is located in northwest Arizona, the state's nickname is The Grand Canyon state. In 1908, President Theodore Roosevelt established the area as Grand Canyon National Monument. It was then designated as Grand Canyon National Park by an act of Congress on February 26, 1919. Sudden changes in elevation have an impact on the weather in the

Grand Canyon. The coldest, wettest ranger station is just eight miles away from the hottest and driest weather station. The Colorado River runs through the Grand Canyon. The colorful layers of exposed rock at the Grand Canyon make it an important geological research site.

In 1926, the Air Commerce Act was passed, and the new Aeronautics Branch in the Department of Commerce assumed primary responsibility for aviation oversight. The first air traffic control centers were established, but they had no direct radio link with aircrafts. To ensure a federal focus on aviation safety, President Franklin Roosevelt signed the Civil Aeronautics Act in 1938. The legislation established the independent Civil Aeronautics Authority which would conduct accident investigations and recommend ways of preventing accidents. After World War II, U.S. companies began designing and building jet airplanes, and air traffic increased substantially.

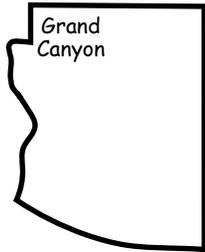
On June 30, 1956, two commercial airplanes collided over the Grand Canyon, killing all 128 occupants of the two airplanes. This event demonstrated the need to ensure the safe and efficient use of national airspace. Two months later, on August 23, 1958, President Eisenhower signed the Federal Aviation Act. The new independent Federal Aviation Agency was responsible for civil aviation safety.

The Grand Canyon is home to eleven federally recognized tribes with deep history and connection to the Grand Canyon. One tribe, the Havasupai Indians, lives inside the Grand Canyon in a village near Havasu Creek. The Indian village is only accessible by helicopter, hike, or by mule. Since it sits eight miles from the nearest road, the village receives its mail and supplies by mule train. This is the only location in the United States where mail is still delivered by mule.



The London Bridge, designed in 1799 by Scottish engineer John Rennie, began sinking into the River Thames. After years of heavy automobile traffic crossing the bridge, the east side was three to four inches lower than the west side. In 1967, the City of London began to look for potential buyers for the London Bridge. Lake Havasu City's founder, Robert P. McCulloch, Sr., saw a business opportunity. Reconstructing this massive icon in his new city would attract tourists and prospective residents. McCulloch placed the winning bid of \$2.46 million on April 18, 1968. The purchase included ornate lampposts constructed from the melted-down cannons captured from Napoleon's army after the Battle of Waterloo in 1815. These lampposts line the London Bridge today. Each of the bridge's 10,276 exterior granite blocks was numbered before the bridge was disassembled. After it was dismantled, the blocks from the original bridge were shipped through the Panama Canal to California and then trucked to Lake Havasu City. The shipping and assembly of the bridge, and dredging of a man-made channel underneath cost \$7 million.

The bridge was rebuilt with a steel framework faced with granite. This reduced its weight while strengthening the structure in order to accommodate automobile traffic. Three years after being relocated from England, the bridge was rededicated in a ceremony on October 10, 1971.



- Answer the questions.

1) Which state was the last contiguous state to be added to America?

2) In which part of Arizona is Grand Canyon National Park located?

3) Which river flows through the Grand Canyon?

4) In which year was the Grand Canyon designated as a national park?

5) Which president initiated the first steps to ensure aviation safety? Which Act did he sign?

6) Which event demonstrated the need for more legislation and greater oversight?

7) Where is mail still delivered by mule?

8) Which famous bridge was relocated to Arizona? Describe the relocation process.

Part C: Read the fun facts about Arizona.

- The Grand Canyon pink rattlesnake is found only within the Grand Canyon.
- Arizona is a major copper-producing state. The capitol building of Arizona has a copper roof, and the amount of copper used is equivalent to that used in 4,800,000 pennies.
- Arizona has a large percentage of its land set aside and designated as Indian lands.
- Architect Frank Lloyd Wright's studio, Taliesin West, is a National Historic Landmark located in Scottsdale.
- Arizona is one of the four states that meet at the Four Corners Monument. Do you remember the other three states? _____

Part D: The capital of Arizona is Phoenix. Its postal abbreviation is AZ.

- Mark the state capital on the map of Arizona.
- Draw a silly picture to help remember the capital city. The sillier the picture is, the easier it is to remember the information.



Part E: Read chapters 6-7 in *Where the Red Fern Grows*. What was the significance of the pups' names and the location in which the names were chosen?

- Draw a picture of the location based on the description in the book.

Part F: Color the state of Arizona on the map on worksheet 129a.

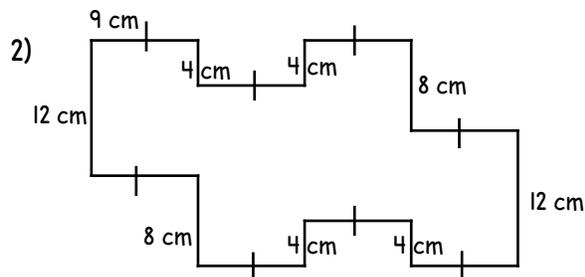
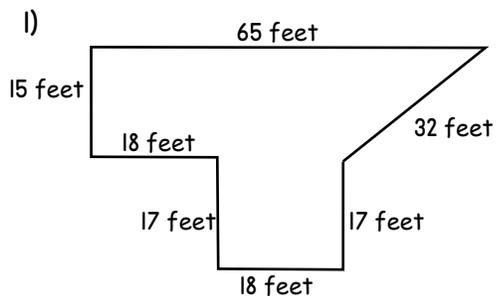
Part G: Use books or online resources to gather information about Arizona, and then fill in the chart on worksheet 129b.

Part H: Complete each practice exercise on worksheet 129c again. Find a balance between accuracy and speed. Time yourself, and check your work. Record your daily progress on worksheet 73a.

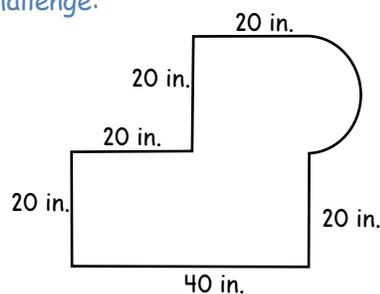
name _____



Part A: Find the perimeter and area of the composite figures.

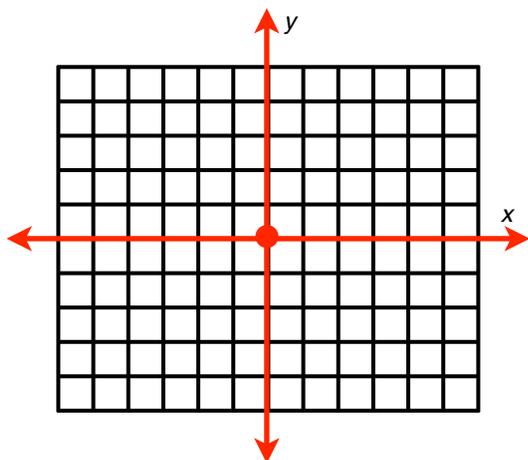


Challenge:

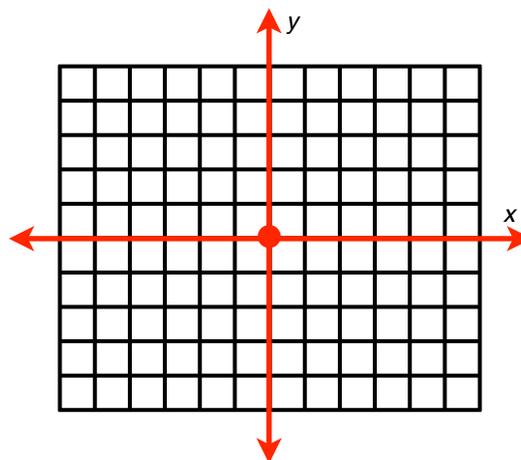


Part B: Graph each figure with the given vertices. Then find the area of each figure.

- 1) $(0, 3), (6, 3), (3, -1), (-3, -1)$



- 2) $(-4, 2), (-4, -2), (-2, -2)$



Part C: A missing dimension can be found using an equation and solving for a variable.

The area of a rectangle is 112 square feet. The base length is 16 feet. What is the width?

- Step one: Draw a diagram.
- Step two: Label the known information.
- Step three: Label the unknown information with a variable.
- Step four: Write an equation and solve for the unknown variable.
 - ✦ You are also given the area of the rectangle. $A = lw$
 - ✦ Substitute the known values. $112 = 16w$
 - ✦ Solve for the variable.



$$\begin{array}{r} 112 = 16w \\ 16 \quad 16 \\ \hline 7 = w \end{array}$$

- Step five: Substitute the answer to check.
 $112 = (16)(7)$
 $112 = 112$
- Step six: Write the answer with a label. The width is 7 feet.

Part D: Solve each word problem. Follow the steps in part C. Show all of your work.

1) The area of an extra-large shoe box is 162 square inches. The width is 9 inches. What is the length?

2) The area of a tennis court is 2,808 feet. The length is 78 feet. What is the width of the court?

3) The area of a square game board is 256 inches. What is the length of each side?