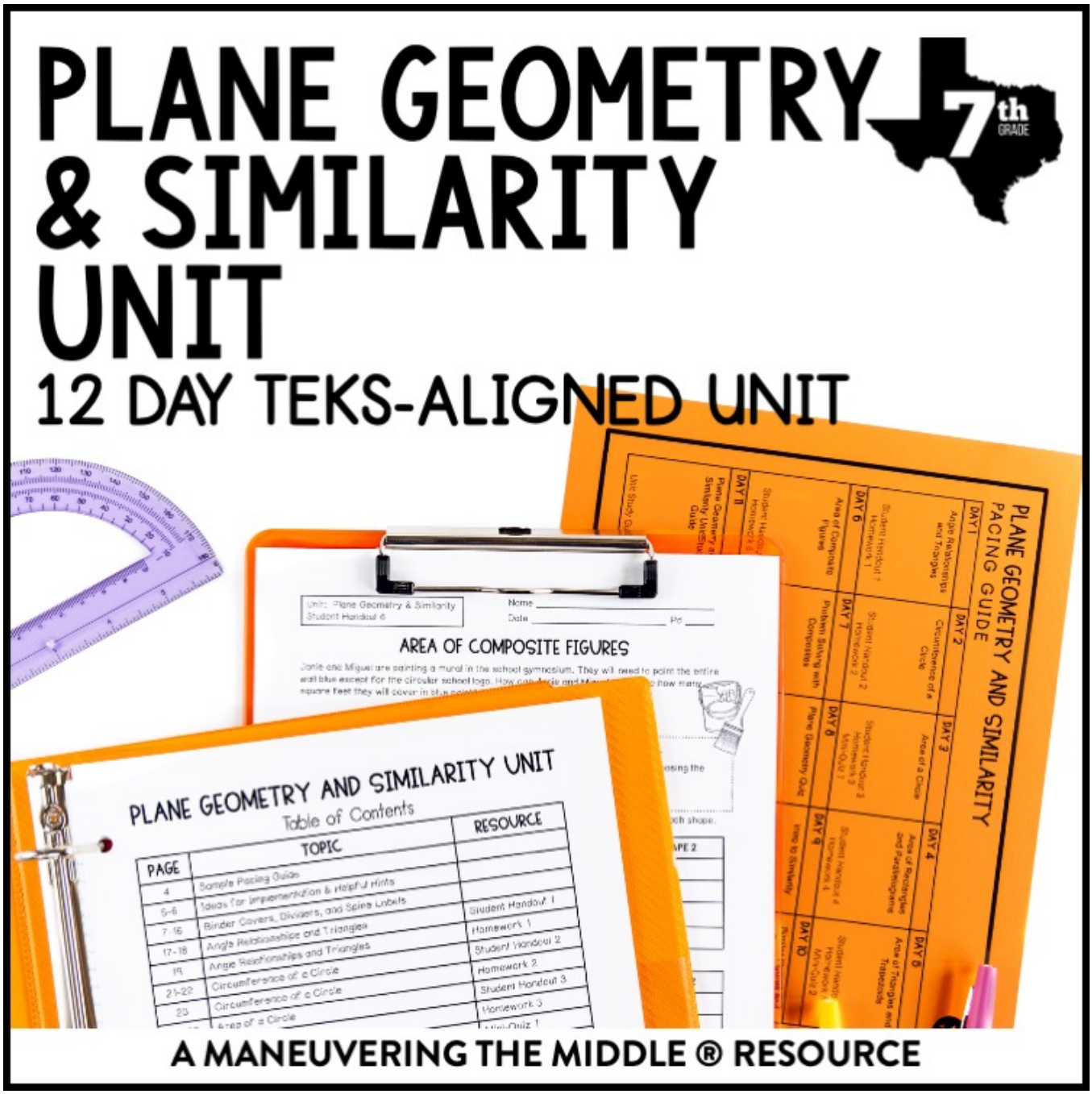
learning focus:

- ✓ solve mathematical and real-world problems involving similar shapes and scale drawings
- ✓ find circumference and area of circles
- ✓ determine the area of composite figures in mathematical and real-world situations



PLANE GEOMETRY & SIMILARITY

a 12 day TEKS-aligned unit

TEKS: 7.5A, 7.5B, 7.5C, 7.8C, 7.9B, 7.9C, 7.11C

ready-to-go, scaffolded student materials

PLANE GEOMETRY AND SIMILARITY UNIT

Table of Contents

A MANEUVERING THE MIDDLE® RESOURCE

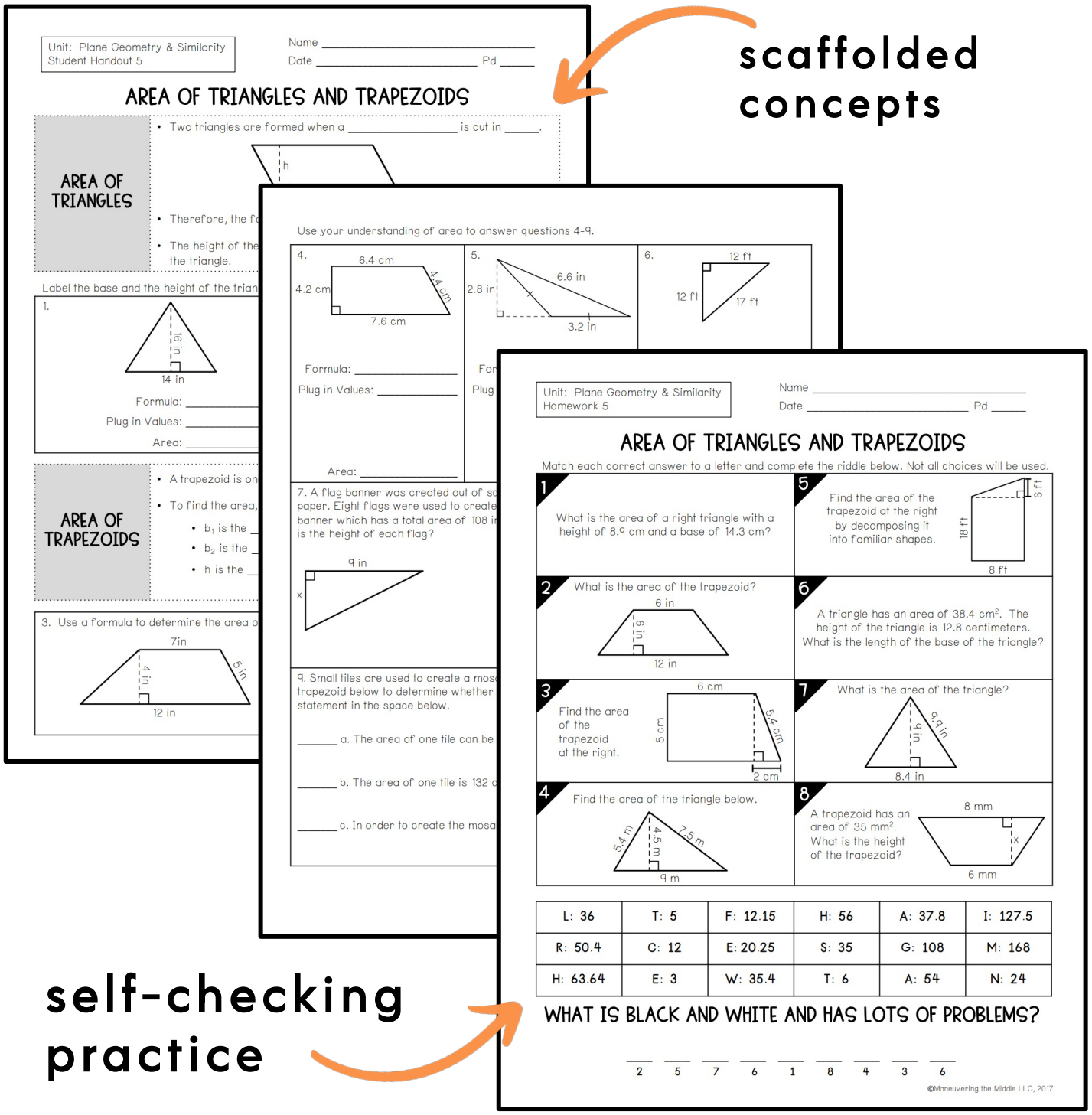
PLANE GEOMETRY & SIMILARITY

a 12 day TEKS-aligned unit

TEKS: 7.5A, 7.5B, 7.5C, 7.8C, 7.9B, 7.9C, 7.11C

student friendly + real-world application

scaffolded concepts



self-checking practice

L: 36	T: 5	F: 12.15	H: 56	A: 37.8	I: 127.5
R: 50.4	C: 12	E: 20.25	S: 35	G: 108	M: 168
H: 63.64	E: 3	W: 35.4	T: 6	A: 54	N: 24

2 5 7 6 1 8 4 3 6

A MANEUVERING THE MIDDLE® RESOURCE

PLANE GEOMETRY & SIMILARITY

a 12 day TEKS-aligned unit

TEKS: 7.5A, 7.5B, 7.5C, 7.8C, 7.9B, 7.9C, 7.11C

streamline your planning process with unit overviews

PLANE GEOMETRY AND SIMILARITY
OVERVIEW

READINESS STANDARDS	SUPPORTING STANDARDS
7.5C Solve mathematical and real-world problems involving similar shape and scale drawings.	**7.5A** Generalize the critical attributes of similarity, including ratios within and between similar shapes.
7.9B Determine the circumference and area of circles.	**7.5B** Describe π as the ratio of the circumference of a circle to its diameter.
7.9C Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.	**7.8C** Use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas.
	7.11C Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

BIG IDEAS

- A triangle is a three-sided pc
- Angles are related in such a
- A similar shape has proport
- A figure can be reduced or e

ESSENTIAL QUESTION

- How are the interior angles
- What is the relationship bet
- How can a formula help you
- Why do certain shapes have

✓ key vocabulary

✓ vertical alignment

PLANE GEOMETRY AND SIMILARITY
PACING GUIDE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Angle Relationships and Triangles Student Handout 1 Homework 1	Circumference of a Circle Student Handout 2 Homework 2	Area of a Circle Student Handout 3 Homework 3	Area of Rectangles and Parallelograms Student Handout 4	Area of Triangles and Trapezoids Student Handout 5 Homework 5
DAY 6	**DAY 7**			
Area of Composite Figures Student Handout 6 Homework 6	Problem Solving with Composites Student Handout 7 Homework 7			
DAY 11	**DAY 12**			
Plane Geometry and Similarity Unit Study Guide Unit Study Guide	Plane Geometry and Similarity Unit Test Unit Test			

sample pacing calendar

PLANE GEOMETRY AND SIMILARITY
OVERVIEW

TOPIC	TEACHING TIPS
Angle Relationships and Triangles	• This is one of my most favorite topics! Have students work in groups of three. Give them a long piece of string that has been tied to form a circle. Each student will hold the string and form a vertex. Call out the various triangle classifications and have students move to create that type of triangle. Stop to discuss and make any corrections.
Circles	• Collect various circular items and have students practice finding the area and circumference of each item. Consider setting up stations where students use a string or a sewing measurement tape to measure and solve. • In the event a problem does not have a picture, I always required students to sketch a picture and label the parts.
Area of Polygons	• I love teaching area as a covering of a 2D object. This could be as simple as using graph paper to color various shapes with various dimensions. Students could create a picture with various shapes or even spell out their name. • Cheez-Its® are also great ways for students to physically cover an object. Consider giving students a specific number of Cheez-Its® and then ask them the various dimensions that can be created with that area.
Composite Figures	• Consider having students draw the various shapes independent of each other with the measurements. Then, ask them to find the area of each shape. Finally, have them add or subtract based on the situation. By breaking these down into separate images, students tend to do better and use the appropriate measurements.
Similarity	• Project an image onto the board. Then, use the computer to resize the image both by reduction and enlargement. Help students connect the change in size to being proportional. • Students can experience a scale drawing by using graph paper and sketching figures, then reducing or enlarging the figures based on the scale factor.

teaching ideas

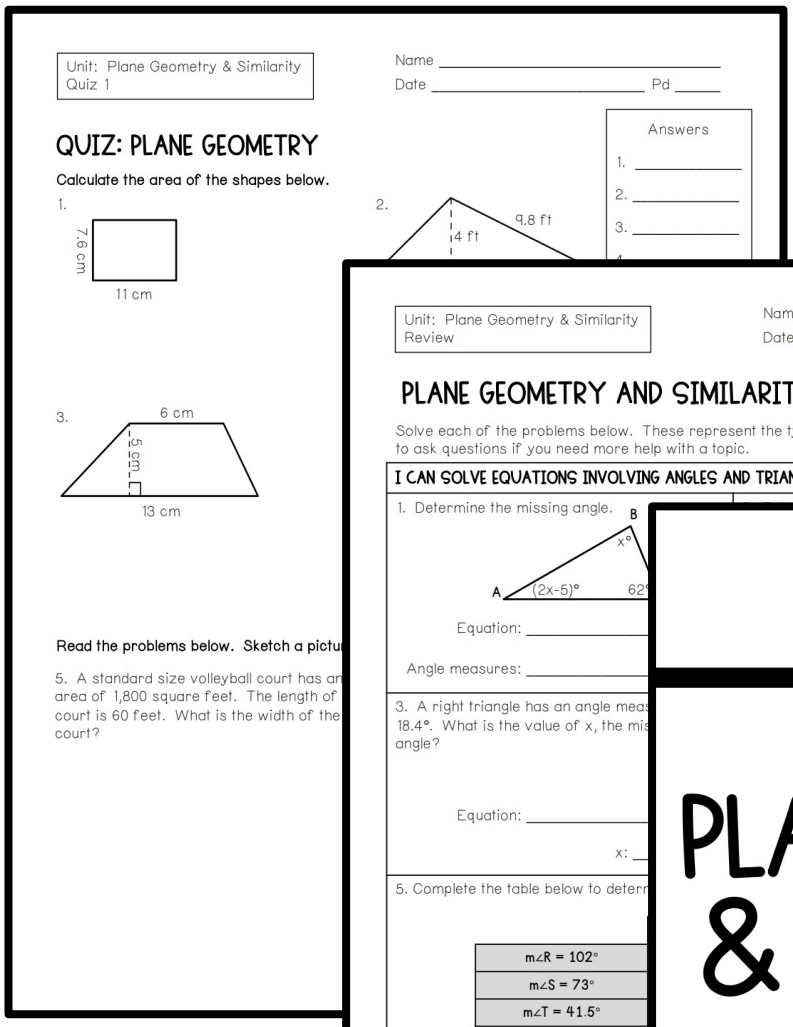
A MANEUVERING THE MIDDLE® RESOURCE

PLANE GEOMETRY & SIMILARITY

a 12 day TEKS-aligned unit

TEKS: 7.5A, 7.5B, 7.5C, 7.8C, 7.9B, 7.9C, 7.11C

unit study guide + assessments


Unit: Plane Geometry & Similarity
Quiz 1

Name _____
Date _____ Pd _____

QUIZ: PLANE GEOMETRY

Calculate the area of the shapes below.

1.
7.6 cm
11 cm

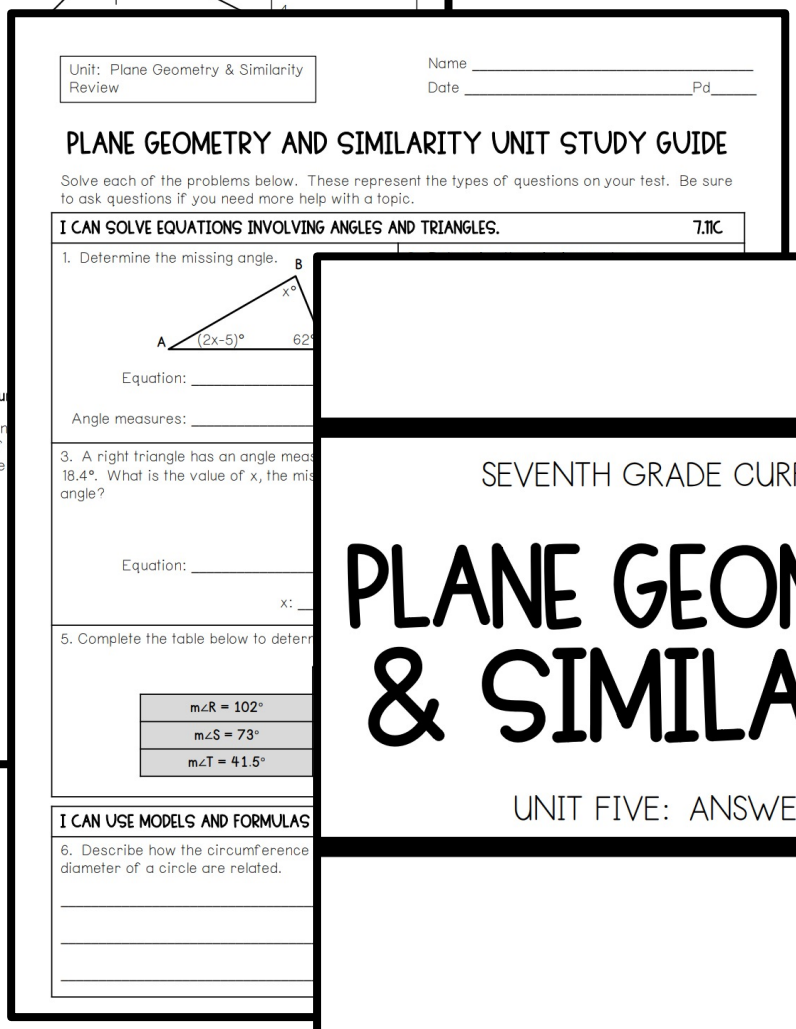
2.
9.8 ft
4 ft

Answers
1. _____
2. _____
3. _____

3.
6 cm
5 cm
13 cm

Read the problems below. Sketch a pictu

5. A standard size volleyball court has ar
area of 1,800 square feet. The length of
court is 60 feet. What is the width of the
court?


Unit: Plane Geometry & Similarity
Review

Name _____
Date _____ Pd _____

PLANE GEOMETRY AND SIMILARITY UNIT STUDY GUIDE

Solve each of the problems below. These represent the types of questions on your test. Be sure to ask questions if you need more help with a topic.

I CAN SOLVE EQUATIONS INVOLVING ANGLES AND TRIANGLES. 7.11C

1. Determine the missing angle.

B
x°
A
(2x-5)°
62

Equation: _____

Angle measures: _____

3. A right triangle has an angle mea
18.4°. What is the value of x, the mis
angle?

Equation: _____

x: _____

5. Complete the table below to deter

m∠R = 102°
m∠S = 73°
m∠T = 41.5°

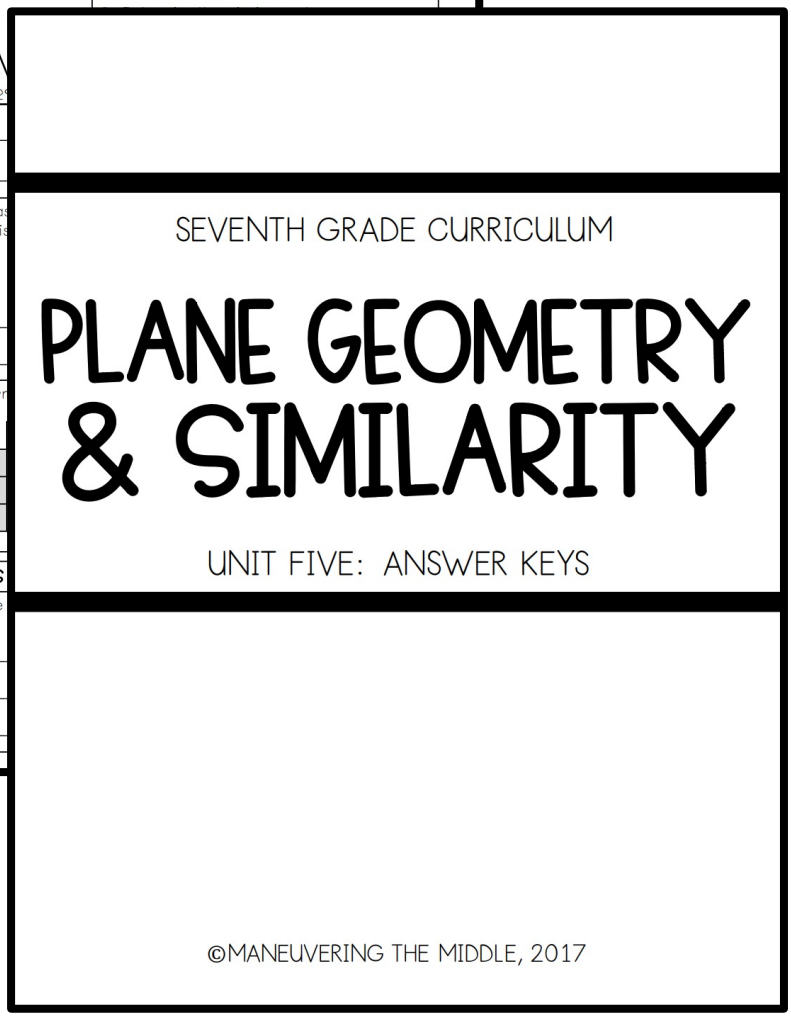
I CAN USE MODELS AND FORMULAS

6. Describe how the circumference
diameter of a circle are related.

_____

_____

_____


SEVENTH GRADE CURRICULUM

PLANE GEOMETRY & SIMILARITY

UNIT FIVE: ANSWER KEYS

- ✓ quizzes
- ✓ editable unit test

answer keys included

A MANEUVERING THE MIDDLE® RESOURCE