Topic 1

LESSON 1.3a

Slicing and Dicing Composite Figures

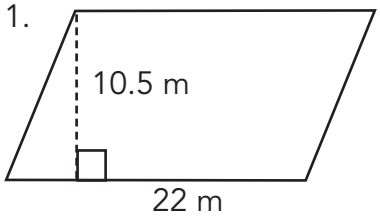
6.G.1

Objective: Area of Triangles and Quadrilaterals

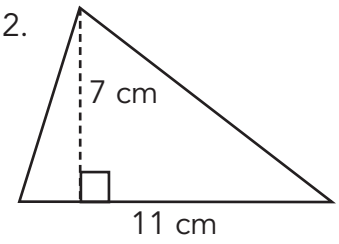
Warm-Up

Use a formula to determine the area of each figure

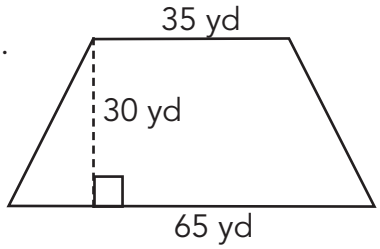
1.



2.



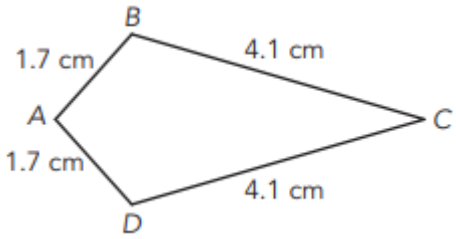
3.



EXPLORE 1

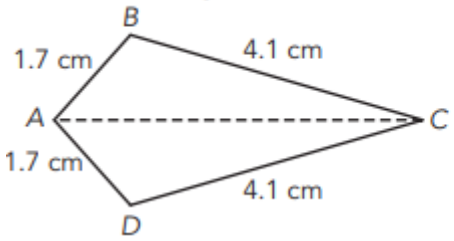
Area of a Kite

A **kite** is a quadrilateral with two pairs of consecutive congruent sides where opposite sides are not congruent.

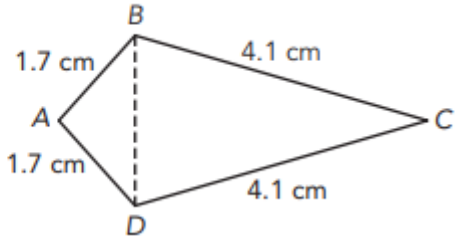


The area of a kite, like that of other quadrilaterals, can be determined by decomposing its shape into smaller familiar shapes. Mr. Gilbes sketched the kite shown. He asked his students to add a line segment that would divide the kite into two familiar figures.

Molly's kite



James's kite

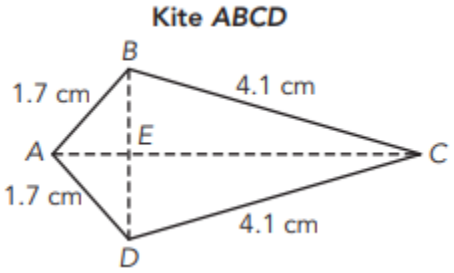


1. Describe each student's strategy and identify any additional information you would need to calculate the area. Would you rather use Molly's or James' diagram to compute the area of the kite?

2. Use the information given to calculate the area of the kite using both Molly's and James' strategies.

Given:

AC = 5 cm	BD = 2.5 cm
AE = 1.1 cm	BE = 1.25 cm
CE = 3.9 cm	DE = 1.25 cm



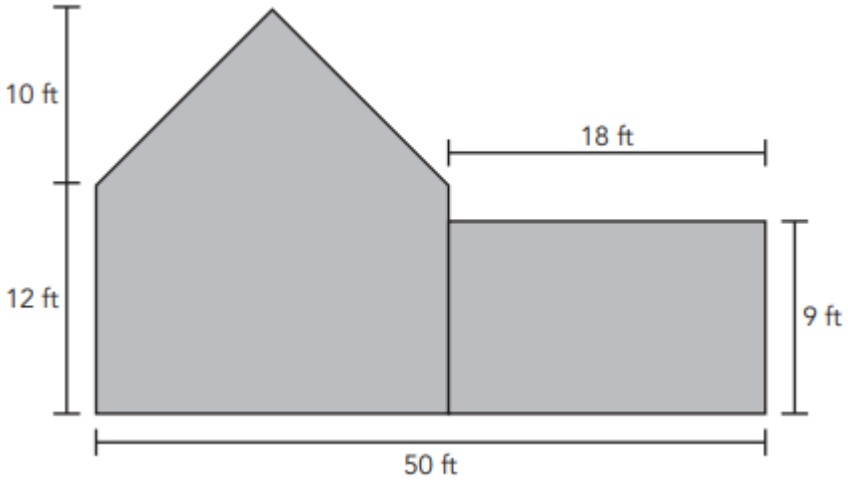
3. Which method do you prefer for Question 2, Molly's or James' method? Why?

EXPLORE 2

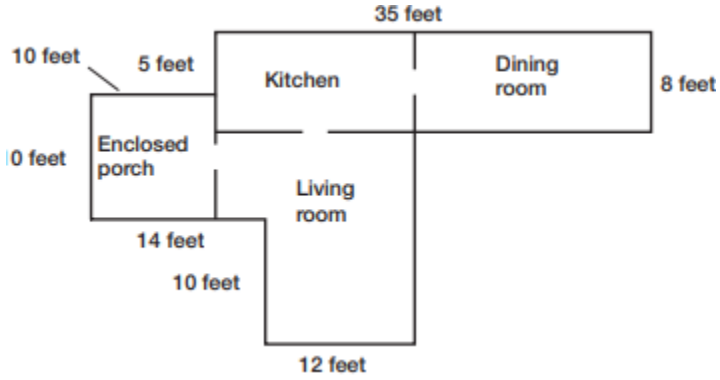
Area of Complex Figures

Decompose the composite shape in each image into parallelograms, triangles, and/or trapezoids to calculate the approximate area of each. Show your work.

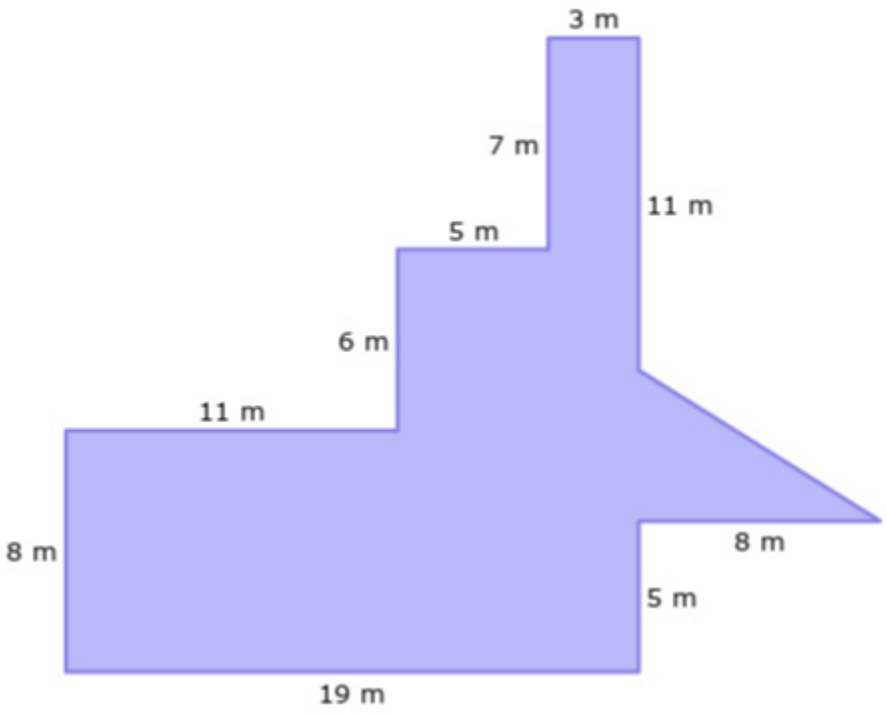
1. Suppose a gallon of paint covers about 400 square feet. How much paint would you need to paint the entire back of this house?



2. Suppose that carpeting costs $1.20 per square foot. How much would it cost to carpet every room in this house except the kitchen?



3. What is the area of the figure below.



Name: _____ Date: _____ Class: _____

Homework HW

LESSON 1.3a

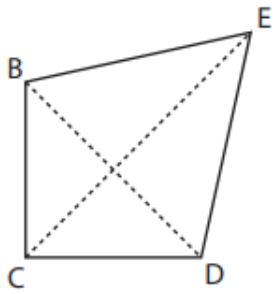
Slicing and Dicing Composite Figures

Objective

Area of Triangles and Quadrilaterals

Find the area of each kite.

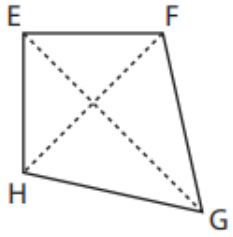
1)



BD = 8 yd, CE = 12 yd

Area = _____

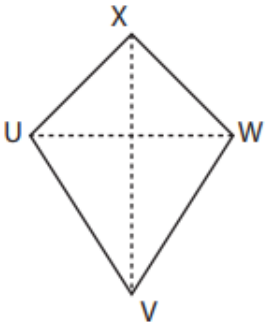
2)



EG = 10 in, FH = 7 in

Area = _____

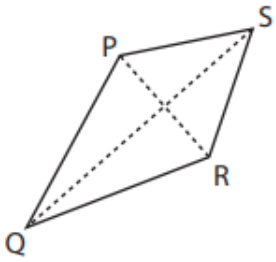
3)



VX = 15 yd, UW = 11 yd

Area = _____

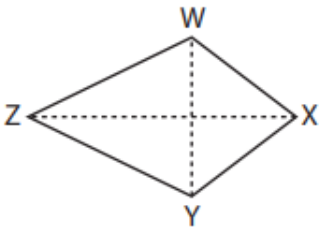
4)



PR = 13 in, QS = 19 in

Area = _____

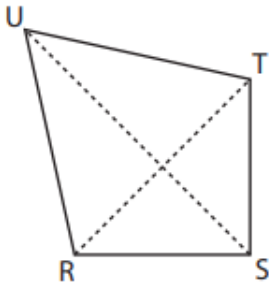
5)



WY = 5 yd, XZ = 8 yd

Area = _____

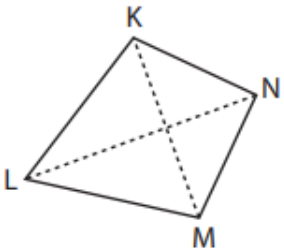
6)



RT = 9 ft, SU = 12 ft

Area = _____

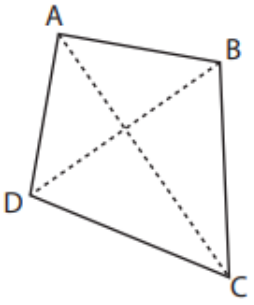
7)



LN = 7 yd, KM = 2 yd

Area = _____

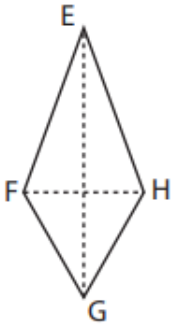
8)



BD = 16 ft, AC = 18 ft

Area = _____

9)



EG = 14 in, FH = 6 in

Area = _____