

Assembling Congruent Figures to Find Area

NCTM Standards 1, 2, 6, 7, 8, 9, 10

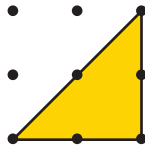
- 1 Quinlan's Quilt Shop makes quilts using pieces like these. Find the area of each piece in square units.



Piece W

Area:

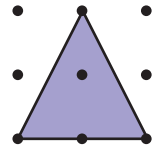
Piece X

Area:

Piece Y

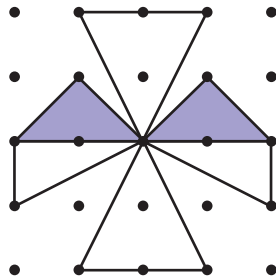
Area:

Piece Z

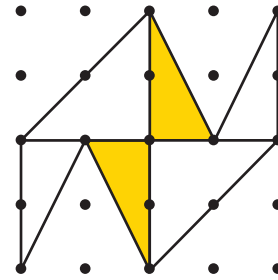
Area:

Find the area of these quilt designs in square units.

2

Area:

3

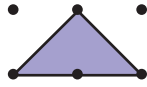
Area:

- 4 In Problem 2, would you **reflect**, **rotate**, or **translate** the left shaded piece to get the right shaded piece?
- _____

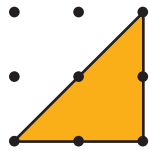
- 5 In Problem 3, would you **reflect**, **rotate**, or **translate** the upper shaded piece to get the lower shaded piece?
- _____

Use the quilt pieces for Problems 6–7.

Piece W



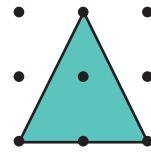
Piece X



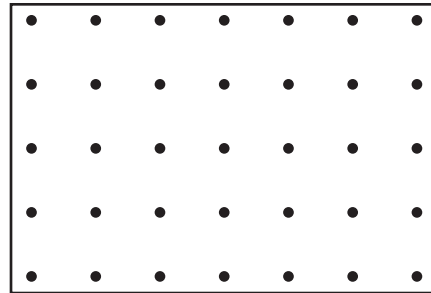
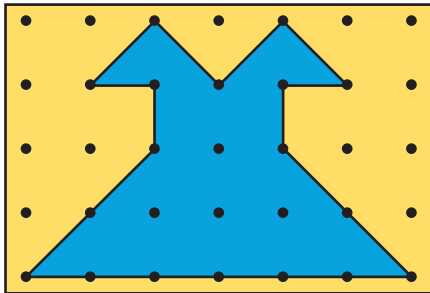
Piece Y



Piece Z



- 6 Quinlan's Quilt Shop sells the quilt shown at the right. On the blank grid, draw a figure congruent to the blue design and show how to make it using the 4 triangular pieces above.

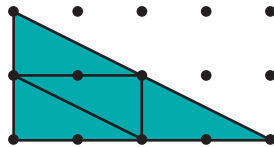


- 7 What is the area of the blue design? Explain how you found the answer.

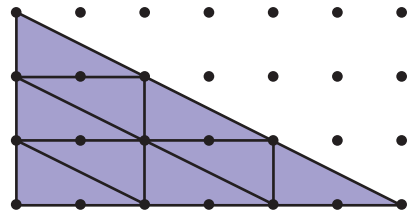
- 8 **Challenge** Quinlan's Quilt Shop makes triangular quilts in different sizes. What is the area of each of these quilts?



Area:



Area:



Area:

What would the area of the next largest quilt be?

Area: