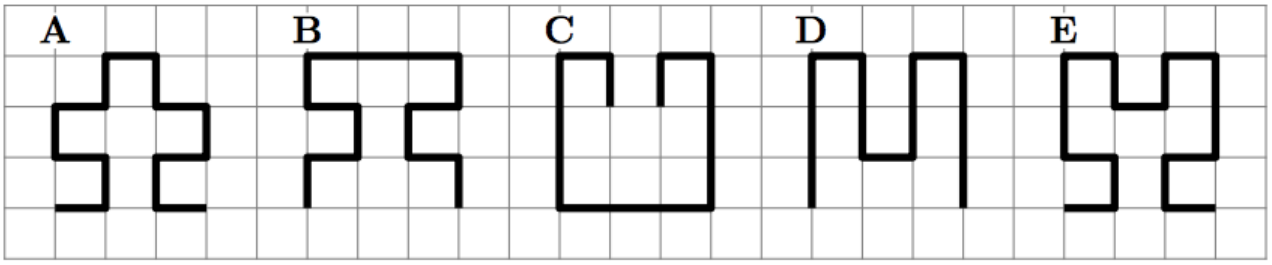
# Math 2 Classwork 20

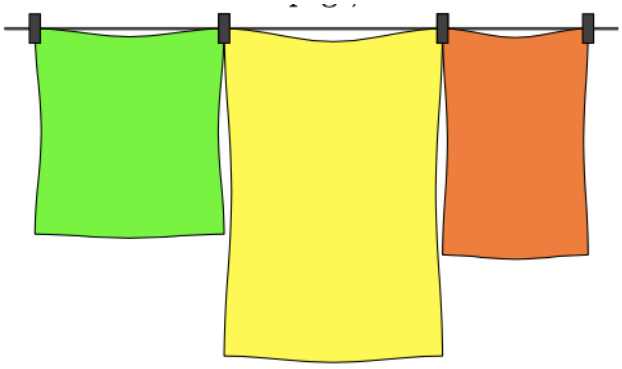
## Warm Up

**1** Which of the following lines is the longest?

(A) A (B) B (C) C (D) D (E) E




**2** Father hangs the laundry outside on a clothesline. He wants to use as few pegs as possible. For 3 towels he needs 4 pegs, as shown. How many pegs does he need for 9 towels?



(A) 9 (B) 10 (C) 12 (D) 16 (E) 18

**3** Grandmother made 11 cookies. She decorated 5 cookies with raisins and then 7 cookies with nuts. At least how many cookies were decorated with both raisins and nuts?

(A) 1 (B) 2 (C) 5 (D) 7 (E) 12

## Homework Review

**4** a) There were 10 passengers on a bus. At the first stop, 9 passengers got on the bus. 5 passengers got on the bus at the second stop, and 3 passengers got off. After two stops, how many people were on the bus, including the driver? _____

c) A taxi driver drove 3 kilometers from the airport to the bus station. Then he drove to the train station, which is 2 kilometers further away than the airport. Finally, he drove to the garage, which is 3 times further from the train station than the bus stop. How many kilometers did the taxi drive since it left the airport and arrived in the garage? _____

**5** Try to figure out the pattern and find the missing number:

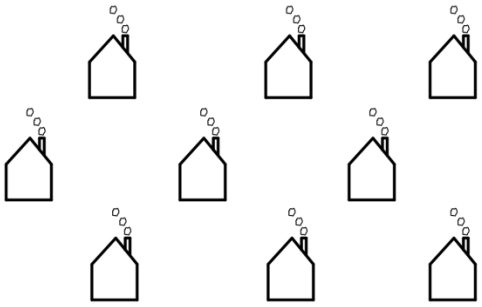

## New Material I

**Translational Symmetry**

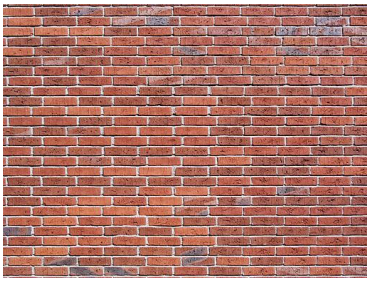
**Translational symmetry** is when something has undergone a movement, a shift, or a slide, in a specified direction through a specified distance without any rotation or reflection.

The distances between points within the figure will not change.
The angles within the figure will not change.
The size and shape of the figure will not change.
**The only thing that changes is its location.**

*Example: The house in the most left of the middle row was translated up and right to create another house. It has been translated down and right to make another house. If we perform the same translation on each of new houses, the pattern will continue.*



**6** Find the examples of translational symmetry in the real life. A brick wall has translational symmetry in lots of directions.



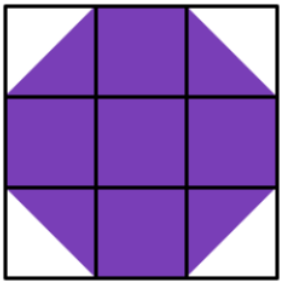
_____

_____

_____

## REVIEW I

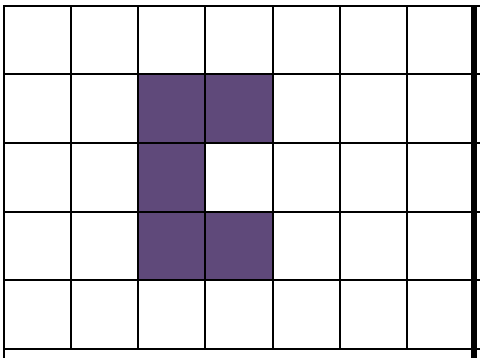
**7** Find the order of rotational symmetry of the octagon on the picture.



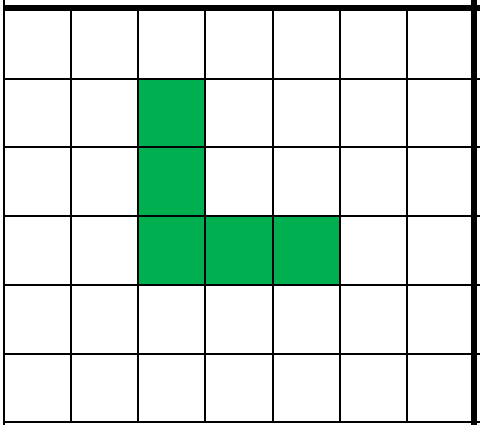
**8** How many lines of symmetry does a circle have?

a) 1 b) 2 c) 3 d) 100 e) infinite

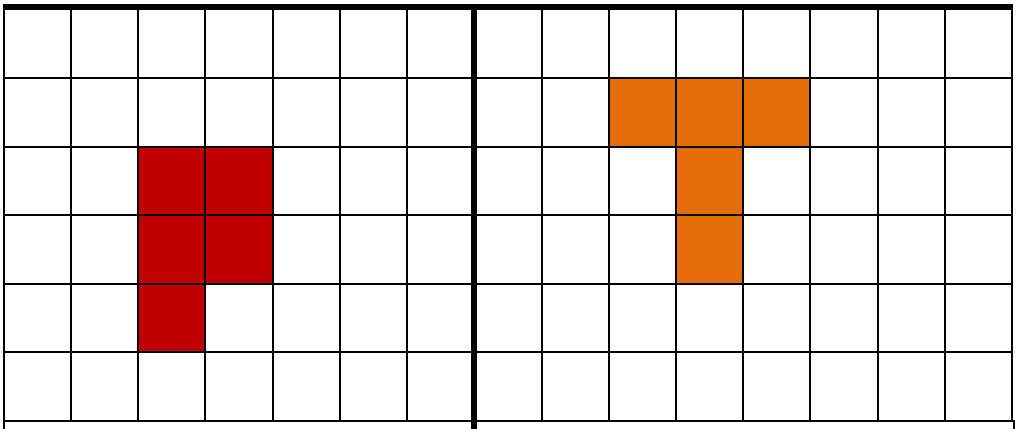
**9** Pentominoes Symmetry



| Draw the lines of symmetry | Draw the lines of symmetry |
|---|---|
| Order of rotation symmetry? | Order of rotation symmetry? |



| Draw the lines of symmetry | Draw the lines of symmetry |
|---|---|
| Order of rotation symmetry? | Order of rotation symmetry? |



| Draw the lines of symmetry | Draw the lines of symmetry |
|---|---|
| Order of rotation symmetry? | Order of rotation symmetry? |

## New Material II

### Area and units of area

**Perimeter** measures the distance around the shape. To calculate a perimeter, we simply add the lengths of all sides of a polygon.

**Area** measures how much surface is covered by a particular object or figure.

The square with a side of one unit is used as a unit of measure for area.

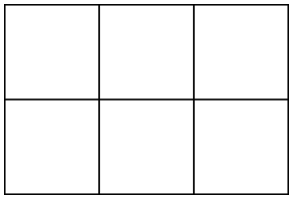
Every unit of **length** has a corresponding unit of area.
Thus, areas can be measured in square meters ($m^2$), square centimeters ($cm^2$), square millimeters ($mm^2$), square kilometers ($km^2$), square feet ($ft^2$), square yards ($yd^2$), square miles ($mi^2$), and so forth.

***All the dimensions must be in the same units.***

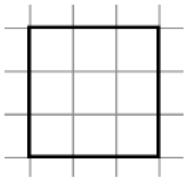
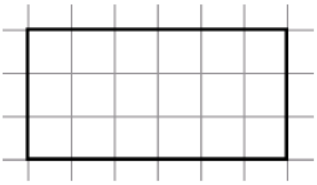
**10** Two sheets of paper have twice the area of a single sheet, because there is twice as much space to write on.

Different shapes have different ways to find the area. For example, in a rectangle we find the area by multiplying the length times the width. In the rectangle on the right, the area is 2×3 or 6. If you count the small squares you will find there are 6 of them.

a) $2 \times 3 = 6$ b) $3 \times 2 = 6$



**11**

| a. | b. | c. |
|---|---|---|
|  |  |  |
| ____ × ____ = _____ | ____ × ____ = _____ | ____ × ____ = _____ |
| A = _____ square units. | A = _____ square units. | A = _____ square units. |

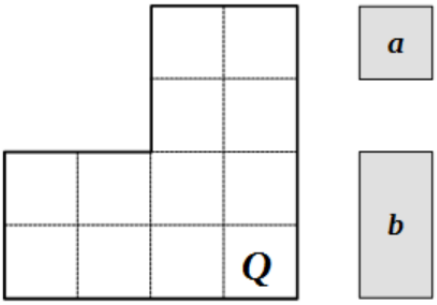
**12**

Look at measures a and b the shape ***Q*** and.

How many times does measure ***a*** fit in shape ***Q***? _____

How many times does measure ***b*** fit in shape ***Q***? _____

We write: ***Q*** = ___***a*** or ***Q*** = ___***b***




**13**

a) A gardener builds a flowerbed that is 6 meters long and 3 meters wide. What is the area of the flowerbed? _____

b) Mr. Smith wants to tile the kitchen floor. How many one-meter square tiles will he need if his kitchen is 3m long and 2 m wide? _____

c) Lisa's bedroom is 6 meters long and 4 meters wide. How much carpet does Lisa need to cover the floor of her bedroom? _____

d) Find the perimeter and area of a rectangle with width 6cm and length 10cm.

P = _____ cm

A = _____ $cm^2$