

Grade 9 Numeracy Learning at Home

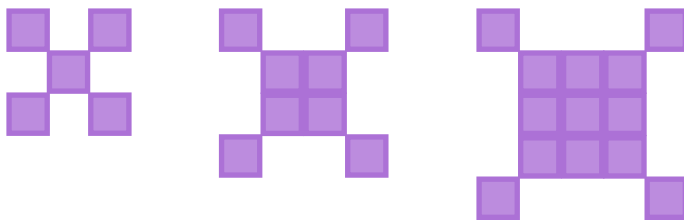
ISSUE 1

Keep the learning going!

The following activities support learning at home and connect to the mathematics that you have been learning. Choose activities that are interesting and challenging. Have fun!

Patterns and Relations: Mathematics is about recognizing, describing, and working with numerical and non-numerical patterns.

PATTERNS AND RELATIONS: How would you continue this pattern? Draw the next three terms. Describe the pattern using an algebraic expression.



Term 1

Term 2

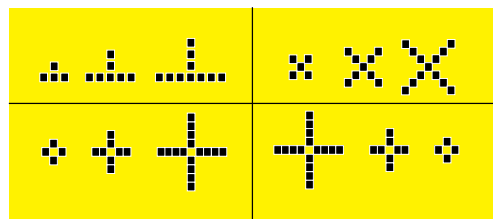
Term 3

CREATE A TABLE OF VALUES: Extend the table to match this pattern for the first 10 terms. Make a prediction of how many squares you will need for the 20th term. Can you calculate this value using your expression? Which term would have 200 segments? Use your expression to calculate it.

Term	Squares
1	5
2	8
3	
4	
5	

Which One Doesn't Belong? Look at what is in each box.

Choose one pattern in this picture that doesn't belong with the rest. Explain why. Pick another pattern and give a different reason. There is at least one reason why each one does not belong.



Math Mindset

Math skills need practice.

Just like a sports skill or artistic ability, focused and deliberate practice builds math skills and confidence!

Mathematics problems are often solved using different ways or methods.

If you get an answer quickly, can you think of another way to solve the problem? If you can't quite figure it out, can you try a different method or strategy?

LAUGH OF THE DAY

I knew a mathematician who couldn't afford lunch.



He could binomials.

Teacher: What is $2n$ plus $2n$?

Student: I'm not sure, that sounds $4n$ to me.



Building Number Sense

Number sense is an awareness and understanding of numbers. Number sense involves knowing different ways of representing numbers, understanding the relationships among numbers, and using numbers flexibly to reason, estimate, and compute.



Symmetry

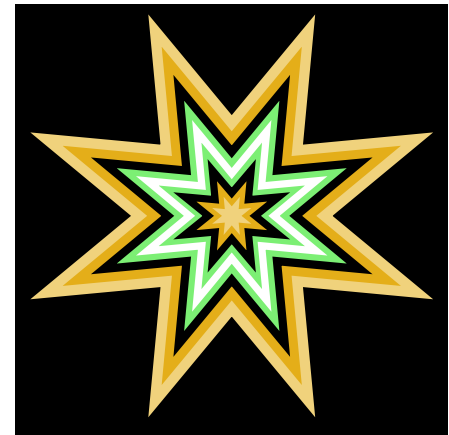
Demonstrate your understanding of line and rotation symmetry.

Line Symmetry: Identify or describe the number of lines of symmetry in this star blanket. Draw the lines on the image.

Rotation Symmetry: How many times can you rotate this image around a centre point so that it looks exactly the same? Does it make a difference if you only look at the star points or if you look at the blanket corners?

The amount of rotation is called the **order of rotation**. How many *degrees* do you turn the points so that the image looks exactly the same? This value is called **the angle of rotation**. Is there a “rule” that could help you figure out the angle if you are given the order of rotation in an object?

Hint: There are 360° in a complete turn.



Did You Know?

Star blankets are significant for celebrating births and deaths, and are also used in traditional ceremonies. Stories of good and bad can be told in a star blanket. Most importantly, as one of the greatest honours among Indigenous People, an individual is gifted a star blanket to honour an achievement or a contribution of something significant. For more information, you can read *The Making of a Star Blanket*. (MFNERC, 2020).

Manitoba First Nations Education Resource Centre (MFNERC). *The Making of a Star Blanket*. Winnipeg, MB: MFNERC, 2014. <https://mfnerc.org/product/the-making-of-a-star-blanket-book/>.