



**Patterning: EQAO
Task Cards
(Open Response)**

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Patterning: EQAO Task Cards (Open Response)

Tasks cards can be used for a variety of activities: bell work, exit slips, group and partner work, homework, *I'm Through...* activities, math centres, quiz questions, etc.

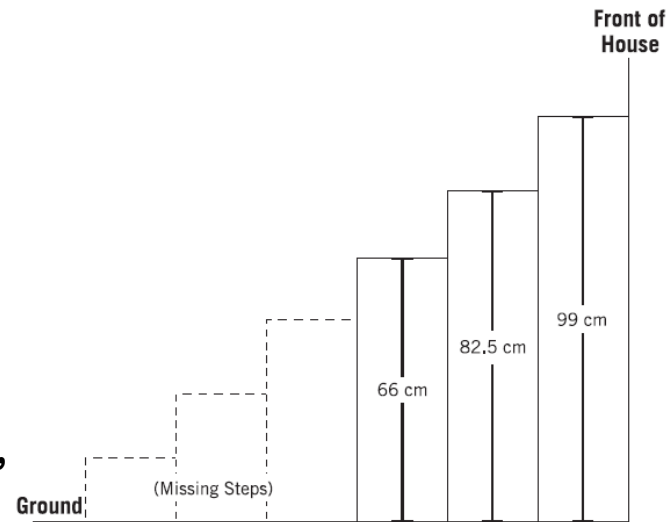
Note: Many of the tasks cards for open response questions have a second card in order to have a larger visual available

A carpenter is replacing some missing steps at the front of Dena's house. The bottom three steps are missing. He wants to use the same heights for the new steps as the old steps. The carpenter measures the height from the ground to the top of each remaining step.

- The fourth step is 66 cm from the ground.
- The fifth step is 82.5 cm from the ground.
- The sixth step is 99 cm from the ground.

The carpenter plans to make each step increase by the same amount.

What are the heights of the first, second and third steps?

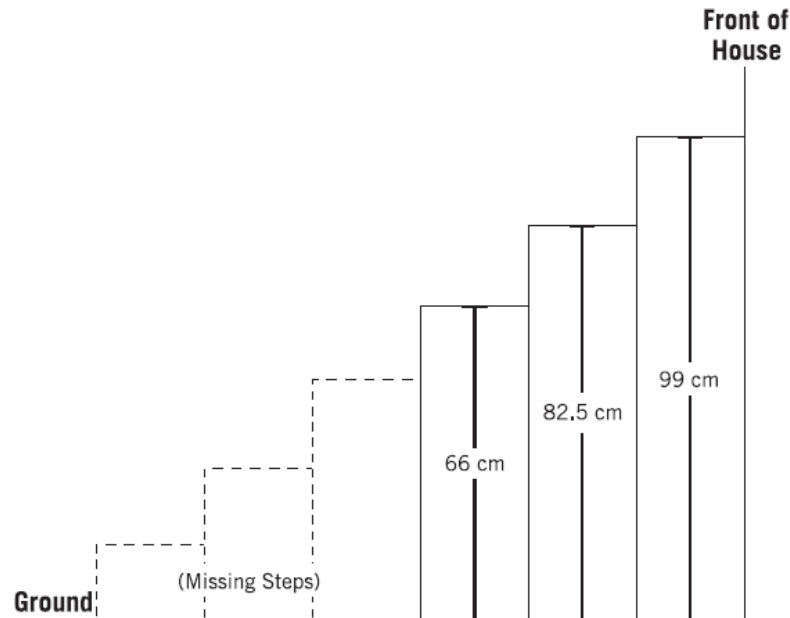


#28, 2006

- The fourth step is 66 cm from the ground.
- The fifth step is 82.5 cm from the ground.
- The sixth step is 99 cm from the ground.

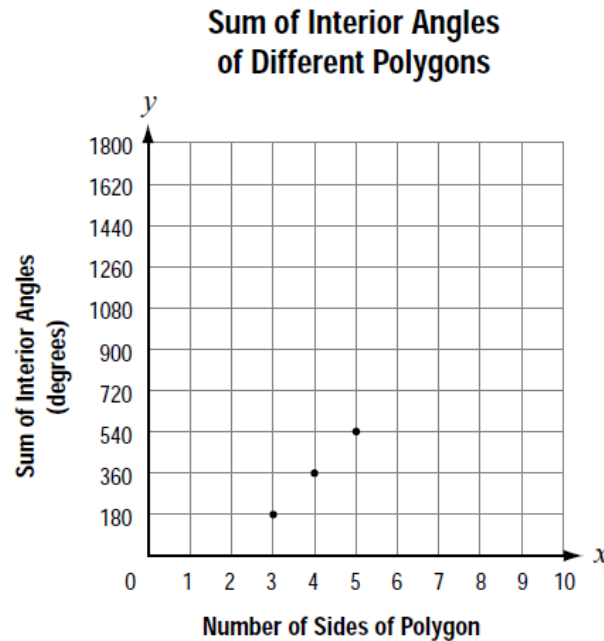
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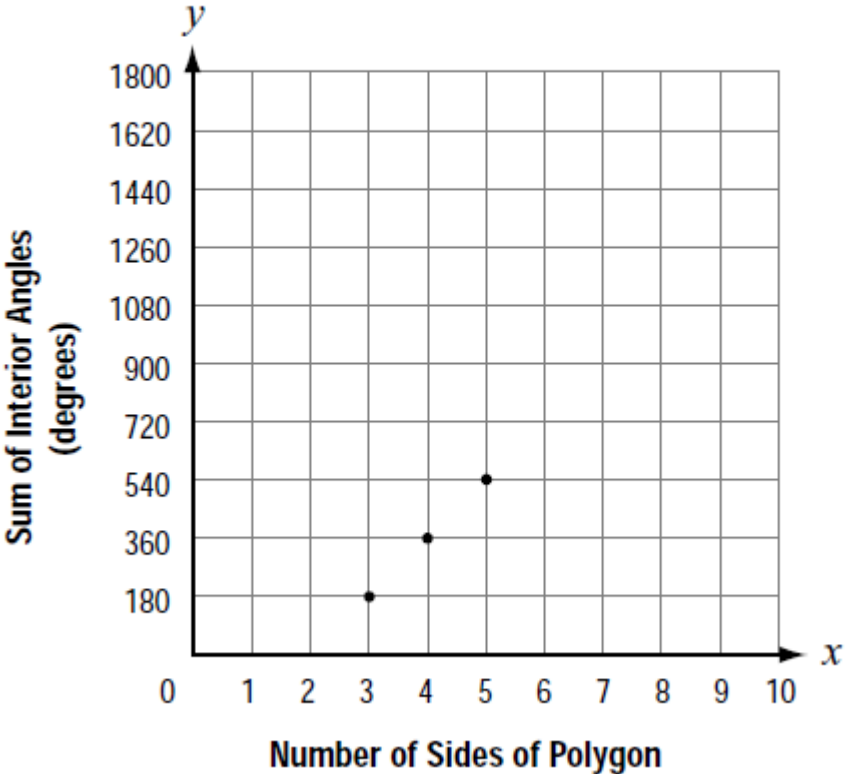
#28, 2006

The graph below shows the relationship between the number of sides of a polygon and the sum of the interior angles of that polygon.



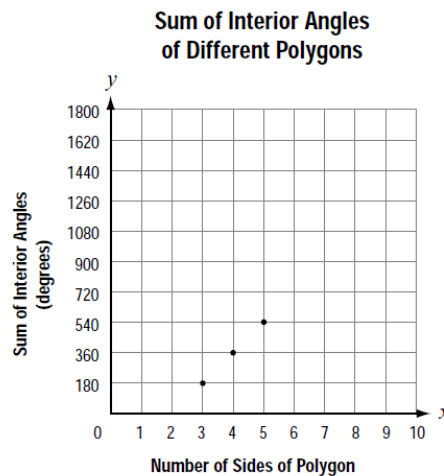
#8, 2008

Sum of Interior Angles of Different Polygons



#8, 2008

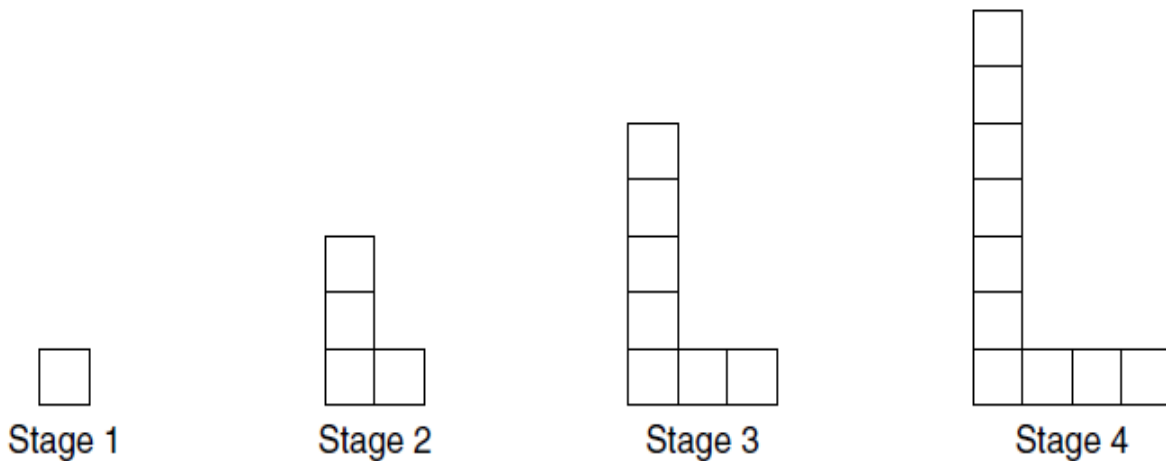
- Extend the pattern for polygons with 6 sides, 7 sides and 8 sides.
- Sam states that the rule to determine the sum of the interior angles of a polygon is “subtract 2 from the number of sides and multiply this difference by 180.” Is Sam’s rule correct?



#8, 2008

Ms. Lewis has 50 blocks. She uses 22 of these blocks to make the pattern shown below.

How many stages will Ms. Lewis be able to complete with the 50 blocks?



#9, 2009

Karen and Riley create the shrinking patterns shown below.

What are their pattern rules?

Karen's rule: _____

Riley's rule: _____

Karen's Pattern

Term number	Term
1	1024
2	512
3	256

Riley's Pattern

Term number	Term
1	111
2	99
3	87

#29 2011

Which pattern will be the first to reach a term smaller than 10?
Justify your answer.

Karen's Pattern

Term number	Term
1	1024
2	512
3	256

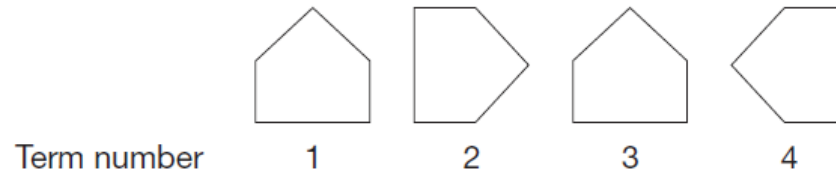
Riley's Pattern

Term number	Term
1	111
2	99
3	87

#29 2011

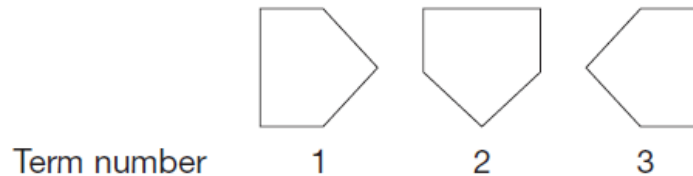
Pattern A is created by repeating the 4 terms below in order.

Pattern A



Pattern B is created by repeating the 3 terms below in order.

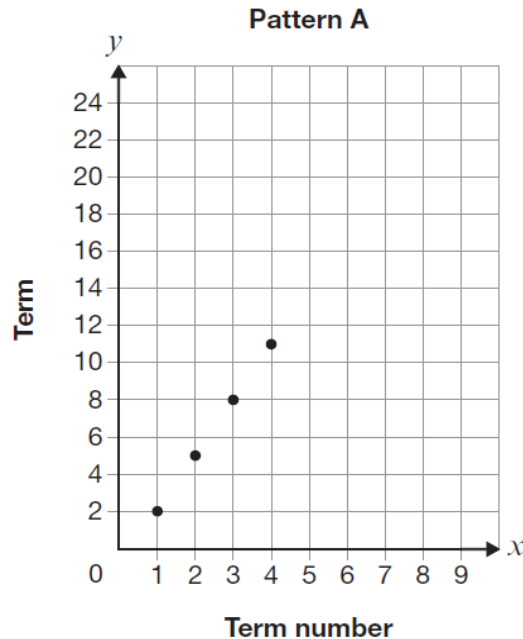
Pattern B



Find a term in both patterns that is the same and has the same term number.
Show your work.

#9, 2012

Two patterns are shown below.



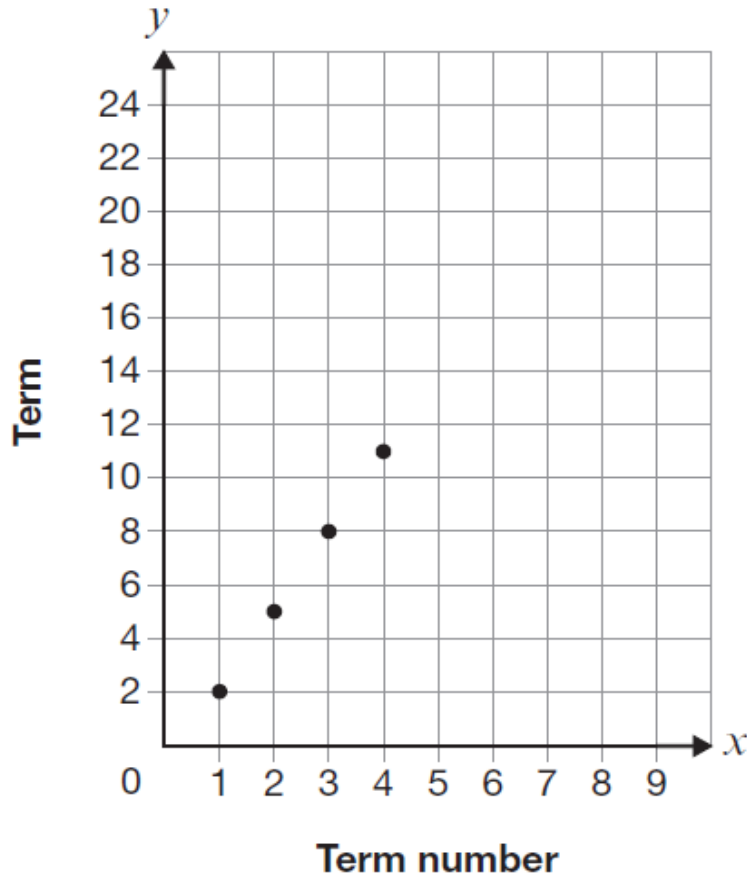
Pattern B

Start with 7 and add 2 to get the next term.

If both patterns continue in the same way, which pattern will reach a term with a value of 23 first? Justify your answer.

#8, 2014

Pattern A

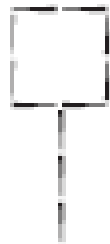


Pattern B

Start with 7 and add 2 to get the next term

#8, 2014

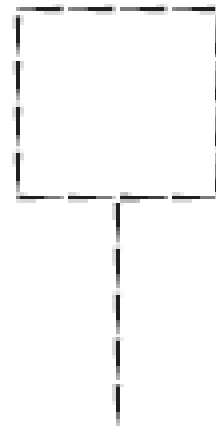
The terms of a pattern are made using toothpicks. Term 1 and Term 5 are not shown.



Term 2



Term 3

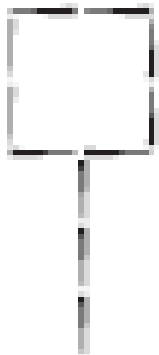


Term 4

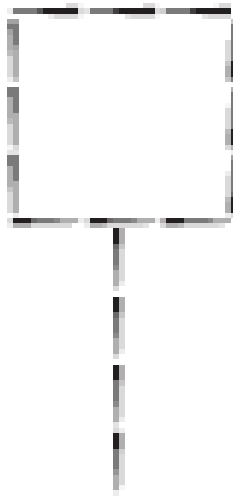
Determine the **total** number of toothpicks used in Term 1 to Term 5 of this pattern.
Justify your answer.

#9, 2016

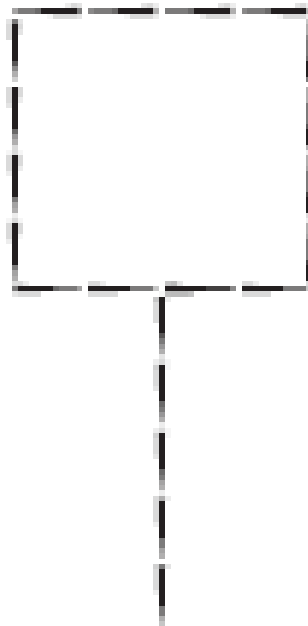
The terms of a pattern are made using toothpicks. Term 1 and Term 5 are not shown.



Term 2



Term 3



Term 4

The total number of toothpicks used in Term 1 to Term 5 of this pattern is _____.

#9, 2016

**Questions are compiled from
EQAO Junior Assessments.
Open Response patterns.
If you are interested in more
information and questions please
visit:**

<http://www.eqao.com/en/assessments/junior-division/educators/Pages/example-materials.aspx>

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