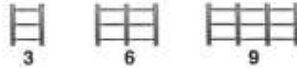


1. Four students are working on problems where they have to find rules. They each have found a rule connecting the number of rails and the number of posts in this sequence.



Karen's rule *The number of rails is the number of posts minus 1 then times by 3.*

Joe's rule *The number of rails is the number of posts take away 3 then multiply by 3.*

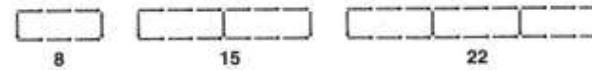
Rajan's rule *The number of rails is the number of posts times 3 then take away 3.*

Nikki's rule *The number of rails is the number of posts multiplied by 2 then take away 3, then add the number of posts.*

If r = number of rails and p = number of posts

Karen's rule can be written in algebra as $r = 3(p - 1)$

- Write the other three rules in algebra.
- One of the student's rules is incorrect. Which one?
- Which rule looks the simplest?



Karen's rule *To get the number of matches add 1 to the number of rectangles, then multiply by 7 then subtract 6.*

Joe's rule *Matches equal the number of rectangles times 8, then take away 1 less than the number of rectangles.*

Rajan's rule *The number of matches is the number of rectangles times by 7 then add 1.*

Nikki's rule *Multiply the number of rectangles by 8, then take away the number of rectangles, then take away 1 to get the number of matches.*

If m = number of matches and r = number of rectangles

Karen's rule can be written in algebra as $m = 7(r + 1) - 6$

- Write the other three students' rules in algebra.
- One of the student's rules is incorrect. Which one?
- Which rule looks the simplest?