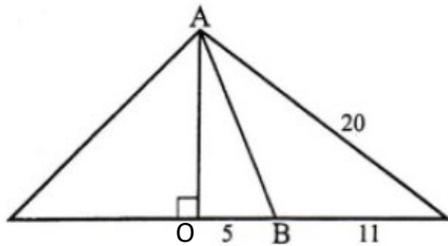


Homework 24 Snippets from Math battle 5A on May 4 2021

1.
 - a. In how many ways can you arrange 4 people in a row of 4 chairs?
 - b. In how many ways can you arrange 4 people around a round table? A table arrangement is considered the same if each one has the same neighbors to the right and left. *Hint: think how many ways to arrange 3 people around the table. Why?*
2. Find AB. *Hint: Use Pythagorean theorem to find AO, then find AB*



3. Solve equation: $|3x - 7| = 2$
4. Solve equation: $|7x - 3| = 11$
5. 100111_b . Translate this binary number to base 10. Then
 - a. Translate it to base 4.
 - b. Translated it to base 13.

Hint: Please review handouts about [binary numbers](#), [base 4](#) with notes, and [base 13](#).

6. Simplify $\frac{x}{(x+7)} - \frac{x}{(x-7)} = \frac{?}{?}$

7. Solve equation $\frac{x^2-1}{x^2-2} = 5$

8. In the figure below, each symbol stands for a number. The sum of numbers in each column or row — except for the second column, where the sum is not known. Can you find this missing sum?

⊙	☆	▲	▲	96
▲	⊙	⊙	⊙	92
☆	☆	☆	▲	140
⊙	▲	⊙	☆	108
108	?	108	96	

Hint: find a sum of 2 rows, which would give you $[4 ☆ + 2 ⊙ + 2 ▲]$