

TRY THESE WHILE WAITING --

- On a European river cruise, $\frac{2}{3}$ of the men are married to $\frac{3}{5}$ of the women. How many men and how many women are on the cruise?
- A club has 500 members. At the Spring dance, tickets for new members were \$14 but \$20 for longtime members. All of the new members attended but only 70% of the longtime members attended. How much ticket revenue was collected?

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Whatever happened to problem solving in the math curriculum?

Frank K. Lester, Jr.
Indiana University, Bloomington
lester@indiana.edu

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What will the math classroom of the future be like?

Algebra Touch

What will your role be?

3

What is problem solving anyway?

What you do when you don't know (or aren't sure) what to do.

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So - this means -
the teacher's job is to make students better at being productive when they don't know what to do.

How can this be????

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Some ideas for bringing PS back into math instruction in an age of CCSSM -- a quick look at the first Math Practice - - -

Math Practice 1: *Make sense of problems and persevere in solving them.*

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The teacher's role during instruction --

Before

During

After

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A snail is at the bottom of a well that is 10 meters deep and it wants to get out. Every day it climbs up 4 meters. It then slides back 2 meters when it rests at night. If it does this day after day, how many days will it take the snail to reach the top of the well?

$$4m - 2m = 2m \text{ gain per day}$$
$$10m \div 2m/\text{day} = 5 \text{ days}$$

Heard it wrong right? lol

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Some PS heuristics to foster

- Draw a picture/diagram
- Be skeptical of your solutions

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$\sqrt{12,345,678,987,654,321}$

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- Draw a picture/diagram
- Be skeptical of your solutions
- Look for patterns
- Make reasonable guesses, not as final answers, but to get you started

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Don't do anything complicated or hard until you've --

- drawn pictures,
- made guesses, &
- developed some understanding.

Don't be impulsive!

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River Cruise Problem

On a European river cruise, 2/3 of the men are married to 5/6 of the women. How many men and how many women are on the cruise?

*Here's a neat way to think about this problem --
we're looking at common numerators (they are the married people!)*

2/3, 4/6, 4/6, 8/12, 10/15, 12/18, ...

1/3, 2/6, 3/9, 4/12, 5/15, 6/18, ...

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The Spring Dance Problem

A club has 500 members. At the Spring dance, tickets for new members were \$14 but \$20 for longtime members. All of the new members attended but only 70% of the longtime members attended. How much ticket revenue was collected?

*Hint: Once you realize that 70% of \$20 is \$14,
you're almost finished.*

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Play strategy games --

Math Dice

Rush Hour

Others???

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The teacher's role in strategy games

Before

- Be clear about rules for playing
- Model how to play & discuss special situations

During

- Watch how students' play
- Point out misconceptions
- Do not suggest strategies for playing

After

- Discuss strategies used & evaluate them
- Help students generalize, transfer or apply strategy

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Thank you for coming!

Get a handout of my
presentation at the NCTM
site --

Contact me at --

lestary@miliana.edu

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