# $\begin{array}{c} \text{Created by Mr. Lischwe} \\ \text{Warmup 8/} \left( -\left( -\left( -\left( -\left( -\left( -29\right) \right) \right) \right) \right) \right) \end{array} \right) \end{array}$

Simplify each expression.

1. 
$$\sqrt{\frac{28}{7}}$$
  
2.  $(\sqrt{3})^2$   
3.  $\frac{24x}{3}$ 

16*x* 

4. Is it possible to do a long division that never ends??? Why or why not?

#### Pattern Posters: Gallery Walk

- Grade your Patterns Worksheet by looking at the posters on the walls.
- Find the answers for the # of units in step 40 on the posters to see if you are correct.
- Compare your step 40 drawing with the posters.
- Compare your expressions with the posters.

\*\*\*If you have a different expression than the posters, it doesn't necessarily mean you are wrong! You may have just thought of something none of them did. We will discuss it all after.

#### Pattern A: Possible Strategies



#### Pattern B: Possible Strategies



#### Pattern C: Possible Strategies



#### Pattern D: Possible Strategies



 $(n+1)^2 - 2$   $n^2 + n + (n-1)$  (n+1)(n-1) + 2n



#### Pattern F: Possible Strategies









40 tables of 4, +2 for the 2 end seats 38 tables of 4, 2 tables of 5 6 seats at all 40 tables, -2 each time 2 tables come together (39 times)

4n+2  $(n-2)\cdot 4+10$   $6n-(n-1)\cdot 2$ 



n(n+2)+2  $n^2+(n+2)+n$   $(n+2)^2-2(n+1)$ 



## Let's review...

• When is a number RATIONAL, and when is it IRRATIONAL???

- ANY FRACTION or ANYTHING THAT CAN BE WRITTEN AS A FRACTION is rational.
- Both numbers in the fraction must be integers!!! (So if  $\pi$  or  $\sqrt{2}$  is in the fraction, for example, it doesn't count!)

# Activity: Treasure Hunt

- Taped around the room are a bunch of cards
- The treasure hunt starts at the dollar sign: **"\$"**
- Each card will have an expression, and you have to say if it is rational or irrational. Your answer will determine what card you go to next.
- The cards that don't have problems on them have messages on the back.
- If you get all of them right, you will eventually get to the (fake) treasure
- If you get to a card that says something like "Oops, you got struck by a meteor", that means that **one of your last two problems** is wrong.
- On a piece of paper, keep track of the order of symbols you go to so that you can backtrack!
- NOTE: YOU WILL NOT GO TO EVERY CARD.

## Partner Expectations

- You should never be across the room from each other! <u>Stay</u> <u>together.</u>
- You may not say "It's irrational. Just trust me." If your partner doesn't understand, it is your responsibility to help them!
- Likewise, if you are confused about one, you need to ask your partner about it!
- If you are BOTH confused, you may ask me.
- You only need to speak loud enough for your partner to hear.

You may start the treasure hunt (it starts at the ) when you and your partner answer all these correctly!!!

- 1. -82.  $\frac{65}{76}$ Rational  $\left(\frac{-8}{1}\right)$ Rational
  - Rational  $\left(\frac{10}{1}\right)$

Irrational

Irrational

<u>6.</u> 3.6782364

**7**. **7**.1487254557 ...

**8**. **4**.33333 ....

<u>9.</u> 2. 08

3.  $\sqrt{100}$ 

4.

5.

 $\sqrt{12}$ 

 $4\pi$ 

10.  $\frac{3\sqrt{2}}{4\sqrt{2}}$ 

11.

Irrational Rational  $\left(4\frac{1}{3}\right)$ Rational  $\left(4\frac{8}{99}\right)$ Rational  $\left(\frac{3}{4}\right)$ 

Rational  $\left(3\frac{6782364}{1000000}\right)$ 

Irrational

### **Treasure Hunt**

#### • If you missed one, **ONE OF YOUR LAST TWO PROBLEMS IS WRONG.**

• Stay with your partner! Help each other understand.

• Do not look behind random cards please!!!

• EARLY FINISHERS: You may start on the Unit 1 Review Sheet (Due Wednesday)