## Warmup 9/(The sum of the <br> first 5 digits of pi) Creaededy $y$ lexenands sucunet <br> 1. How many squares (of any size) are there in this diagram?



## Last Unit of the 9 Weeks: <br> Linear Relationships

- We will have two more quizzes and a few more weeks of ALEKS
- We looked at many types of functions in our last unit. This unit is focused exclusively on functions that make straight lines.


## Quizzes from yesterday...

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- Not graded yet
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## Today - Group Problem:

Proportional Relationships

- Proportional relationships are a common type of linear relationship. In your group, you will be looking at a situation that is proportional. (Actually, one of the problems is NOT proportional!)
- You will be creating an equation, table, and graph for this situation, and answering other questions about it as well.


## GROUP ROLES

- One person will write out the answers for 1-4.
- One person will create the graph (\#5).
- One person will write out the answers for 6-7.
- JUST BECAUSE YOU'RE NOT THE CURRENT "WRITER" DOES NOT MEAN YOU GET TO TAKE A BREAK!
- All three group members must be working together on each problem.
- If you are off task and your response is "But it's not my turn to write!"...that is a VERY EASY way to lose LiveSchool points.


## Discussion: Compare/Contrast

- This discussion is the most important part of the whole lesson!
- We will be finding patterns/drawing conclusions about proportional relationships.

PROBLEM 1: Larry paid $\$ 18.96$ for 3 pounds of coffee.
PROBLEM 2: Barry ran 84 miles in 12 hours.
PROBLEM 3: Carrie cleaned 6 windows in 5 minutes.
PROBLEM 4: Harry ate 114 wings in 16 minutes.
PROBLEM 5: Mary bought a dog. After 4 years, the dog was 16 pounds. After 6 years, the dog was 20 pounds.

PROBLEM 1: Larry paid $\$ 18.96$ for 3 pounds of coffee. Every pound is $\$ 6.32 . \mathrm{y}=6.32 \mathrm{x}$
PROBLEM 2: Barry ran 84 miles in 12 hours. Every hour, he runs 7 miles. $\mathbf{y}=7 \mathrm{x}$
PROBLEM 3: Carrie cleaned 6 windows in 5 minutes. Every minute, she cleans 1.2 windows. $\mathrm{y}=1.2 \mathrm{x}$
PROBLEM 4: Harry ate 114 wings in 16 minutes. Every minute, he eats 7.125 wings. $\mathbf{y}=\mathbf{7 . 1 2 5 x}$
PROBLEM 5: Mary bought a dog. After 4 years, the dog was 16 pounds. After 6 years, the dog was 20 pounds.

## Themes

- All the graphs were linear. Why does this make sense???
- Copy the following problem onto your own paper, then complete.
- Four of the graphs passed through $(0,0)$. What about the situations made them this way?
- Why did the other graph NOT go through the origin?


## HOMEWORK

- Larry bought 6 TVs for $\mathbf{\$ 1 6 5 0}$. Assume there is no tax. Create an equation, table, and graph where " $x$ " is the number of TVs and " y " is the total cost.

