


4TH GRADE

POWER PROBLEMS

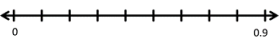
Problems & Homework Edition

Name: _____

 POWER PROBLEMS HOMEWORK

Answer each question below.


1.) Draw an arrow to show where .35 would be on this number line. Plot $\frac{1}{4}$ on the number line.




2.) Mrs. Watson uses $3\frac{3}{10}$ cups of milk to make one holiday dessert and 2.75 cups of milk for another. What is the difference in the amount of milk she used for the two desserts?

3.) Write two fractions that have the same value as .30.

4.) Write a fraction and a decimal that describe the amount of this group that is shaded.



Name: _____

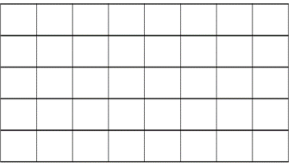
 POWER PROBLEMS HOMEWORK 4.NF.2

Answer each question below.

1.) Draw a round pizza that has been cut into eight slices. Then, shade in the slices that you would eat if you wanted to eat $\frac{1}{4}$ of the pizza.


2.) Draw a picture in order to compare the fractions $\frac{2}{6}$ and $\frac{2}{8}$. Then, write a statement comparing the two fractions that uses the $<$, $>$, or $=$ sign.

3.) Maria wants to draw a picture to show a fraction. How many blocks does she need to shade in to represent $\frac{15}{20}$?



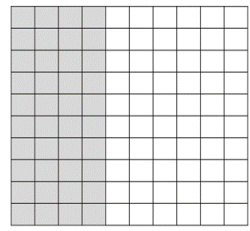
4.) Draw a picture in order to compare the fractions $\frac{3}{12}$ and $\frac{3}{15}$. Then, write a statement comparing the two fractions that uses the $<$, $>$, or $=$ sign.

Name: _____

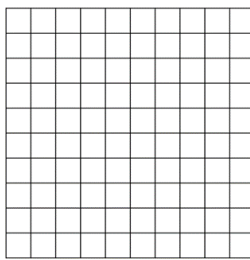
 POWER PROBLEMS HOMEWORK 4.NF.5

Answer each question below.

1.) A science lab is studying how many worms prefer to stay on the surface of the container. Using a container with a denominator of 10, how many worms prefer to stay on the surface and how many prefer to stay on the bottom?



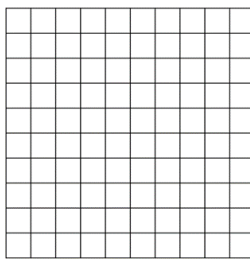
2.) Write a fraction that shows how much of this picture is shaded. Use 10 as the denominator of your fraction.



3.) For a science project, a teacher asked people what fraction of a marathon they could run. Convert the following fractions to fractions with 10 as the denominator.

60
100
10
100
90
100
100
130
100
70
100
10
100

4.) Shade in forty-six hundredths.



Name: _____

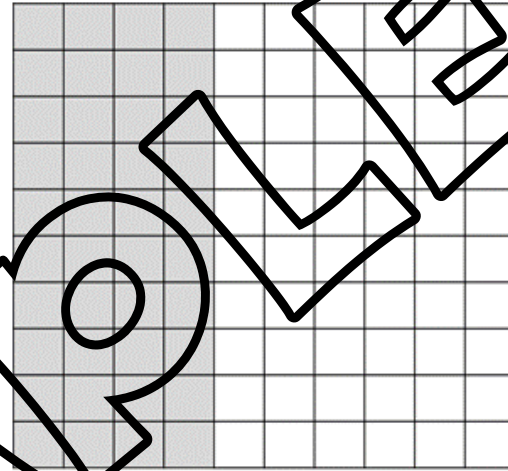


POWER PROBLEMS
HOMEWORK 4.NF.5

Answer each question below.

1.) A science lab is studying worms. They have found that $\frac{1}{10}$ of the worms stay on the surface, and $\frac{3}{10}$ of the worms stay at the bottom of the container. Using fractions with a denominator of 100, tell how many worms prefer the surface and how many prefer the bottom.

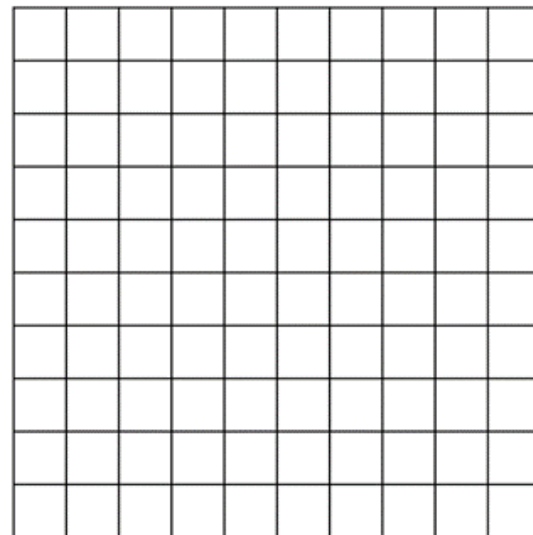
2.) Write a fraction that shows how much of this picture is shaded. Use 10 as the denominator of your fraction.



3.) For her science project, Latonya asked people what fraction of a marathon they thought they could run. Convert her data to fractions with 10 as the denominator.

Mr. Jackson	$\frac{60}{100}$
Mrs. Jackson	$\frac{70}{100}$
Hugo	$\frac{90}{100}$
John	$\frac{100}{100}$
Cesare	$\frac{130}{100}$
Katlyn	$\frac{70}{100}$
Lee	$\frac{10}{100}$

4.) Shade in forty-six hundredths.



POWER Problems HD

What is included?

- 28 conceptual based math questions
- Quality prompts and word problems that promote rigorous thinking
- 4 questions per standard
- Each standard is formatted to one page
- Easy prep
- Answer keys

WHAT ARE POWER PROBLEMS?



PURPOSEFUL - These problems are meant to keep students focused, while strengthening initiative and perseverance.



OPPORTUNITIES - These prompts can be used in a variety of ways. P.O.W.E.R problems can be used to introduce a lesson, spiral review, or as formative assessments.

WITH



ENGAGEMENT - Power Problems are real word applicable and designed to hook students with interest and presentation. The complexity of problems promotes problem solving skills.



RIGOR - Tasks are specifically designed to challenge students and assess conceptual understanding of curriculum versus procedural understanding. Students will need to apply more than just a "formula."

WHY USE POWER PROBLEMS?

BUILD STAMINA WITHIN
YOUR STUDENTS



MORE THAN JUST A COOKIE CUTTER TEXTBOOK APPROACH

- P.O.W.E.R problems are designed to challenge your students with their open ended presentation. Majority of problems that come from textbooks and workbooks assess procedural understanding of curriculum. Some textbooks even provide step by step instructions where the textbook is thinking for the students and taking away that "productive struggle" for children. When we rob students of that event, we rob them of their ability to reason, problem solve, and see beyond a standard algorithm. P.O.W.E.R problems are meant to show students that there are different ways to answer one question in math. With these tasks students take ownership and are part of the problem solving process versus filling in blanks in a textbook.

HOW TO USE POWER PROBLEMS

YOUR KIDS. YOUR
CHOICE. FLEXIBILITY.



TO INTRODUCE A LESSON - P.O.W.E.R problems can be used to introduce a new skill. In this case your students will experience a "productive struggle." Their problem solving skills and prior knowledge will kick in. Often times most of my students will have the incorrect answer or no answer at all. I then have someone explain their method/reasoning and allow my students to critique their peer's answer. This makes for great accountable talk discussions. If I see that most students do not have an answer I will assist the class in getting to a specific point and then allow them to finish independently.



SPIRAL REVIEW - Avoid your students forgetting standards by using P.O.W.E.R problems to spiral review previously taught lessons.



FORMATIVE ASSESSMENTS - You can use these problems to assess mastery and levels of understanding.