

4TH GRADE

POWER PROBLEMS

Problems & Homework Edition

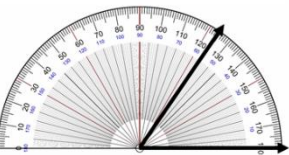


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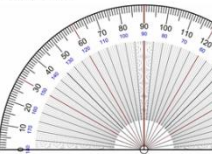
POWER PROBLEMS
HOMEWORK

Answer each question below.

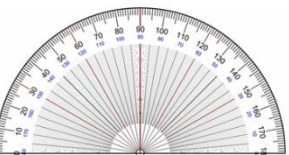
1.) Dave and Marcy are working together on a math problem. Dave says that the measurement of the angle is 55 degrees; Marcy says that it is 125 degrees. Who is correct?



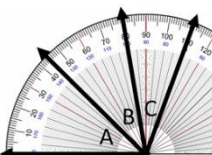
2.) Draw an angle that has a measurement of 75 degrees. Draw an adjacent angle that is 105 degrees.



3.) Draw an angle that has a measurement of 61 degrees.



4.) What is the sum of angles A, B, and C?



Name: _____

POWER PROBLEMS
HOMEWORK 4.NBT.5

Answer each question below.

1.) Angie sews handmade dolls and sells them online. She sells a small doll for \$5 and a larger doll for \$9. She has sold 1,290 of the small dolls and 2,034 of the large dolls. How much money has she made selling dolls?

2.) A publisher places 24 magazines in each box that they ship. If they ship out 68 boxes this week and 64 boxes next week, what is the total number of magazines that they will have shipped out?

3.) Each student in an elementary school class is asked to bring in a package of construction paper that contains 96 sheets. There are 28 students in a class, but 4 forget to bring in the construction paper. How many total sheets of paper are available to use?

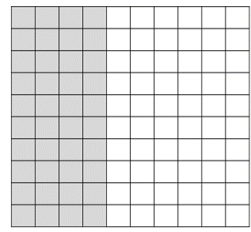
4.) A singer wants to give each person who attends a concert a bumper sticker. The singer will perform 28 concerts on this tour. Half of the concert halls have seating for 800 people; the rest have seating for 1000 people. What is the total number of stickers that will be needed if all of the concerts are sold out?

Name: _____

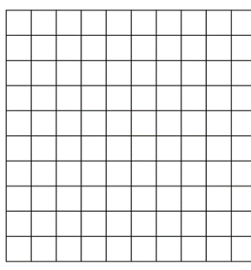
POWER PROBLEMS
HOMEWORK 4.NF.5

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, $\frac{3}{10}$ of the worms stay at the bottom of the container. Using a protractor with a denominator of 10, how many worms prefer the surface and how many prefer the bottom?



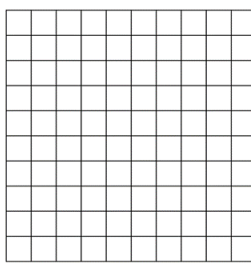
2.) Write a fraction that shows how much of this picture is shaded. Use 10 as the denominator of your fraction.



3.) For a science project, a teacher asked people what they could run if they could run. Convert the data to fractions with 10 as the denominator.

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

4.) Shade in forty-six hundredths.



Name: _____



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HOMEWORK 4.NBT.5

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SAMPLE

POWER Problems HD

What is included?

- 112 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.