Clicking on the run button will activate the screen below:

TURBO-MATH

Weight	Description
0	Fractions
0	Ratios, Proportions
0.176470...	Probability and Statistics
0.125	Percents
0.190045...	Avg,mix,num,work
0.025882...	Rates
0	Logic, Venn Diagrams
0.127058...	Absolute value, Inequalities
0.15	Functions
0.478991...	Linear Expressions Equations
0.323529...	Sys of Equations & Matrices

Dificulty	Question
Basic	Simplify (2/3 - 1/7) / (2/5 + 3/4)
Intermedi...	Solve and Simplify: 4 13/11 * 7 3/7
Basic	Solve 133 4/5 + 70 2/3
Intermedi...	Which fraction is the largest: 1/2, 1/4, 4/7
Intermedi...	The sides of a triangle are in the ratio of 4 : 6 : 9 The shortest side of a similar triangle = 16. W
Intermedi...	Given the two sets of ratios: X : Y = 2 : 10 X : Z = 12 : 21 What is the ratio of Y to Z ?
Intermedi...	1500 pounds of white and black sand are in the ratio of 7 to 8 . If we an additional 4700 poun
Intermedi...	Three different integers are in the ratio: 3 : 8 : 17 Their sum = 56 What is the smallest integer?
Advanced	A box contains 168 marbles. 4/7 are blue. For the probability of choosing a blue marble to incr

Pre Alge... Algebra 1

Geometry Algebra 2

All Subjects and all Problems

Problem ID	Problem Count	Subject Count	HELP
	227	22	

Selection of all records from Probes table OK.

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This screen presents 22 different subjects with a combined total of 227 problem types (as of July 2024 – more will be added in later editions).

TURBO-MATH

1000 pounds of white and black sand are in the ratio of 3 to 7. If we add an additional 3300 pounds of white sand and an additional 3800 pounds of black sand.
What will the new ratio of white to black sand be?

Weight	Description
0	Fractions
0	Ratios, Proportions

Dificulty	Question
Basic	Simplify (2/3 - 1/7) / (2/5 + 3/4)
Intermedi...	Solve and Simplify: 4 13/11 * 7 3/7
Basic	Solve 133 4/5 + 70 2/3
Intermedi...	Which fraction is the largest: 1/2, 1/4, 4/7
Intermedi...	The sides of a triangle are in the ratio of 4 : 6 : 9 The shor
Intermedi...	Given the two sets of ratios: X : Y = 2 : 10 X : Z = 12 : 21 W
Intermedi...	1500 pounds of white and black sand are in the ratio of 7
Intermedi...	Three different integers are in the ratio: 3 : 8 : 17 Their su
Advanced	A box contains 168 marbles. 4/7 are blue. For the probability of choosing a blue marble to incr

Step 1. Add the initial ratios to get a sum:
$$3 + 7 = 10$$

Step 2. Multiply the total amount of sand by each fractional amount to determine:
The initial amount of White sand = 1000 * (3/10) = 300
The initial amount of Black sand = 1000 * (3/10) = 700

Step 3. Determine the final amount of each color of sand.
White sand = 300 + 3300 = 3600
Black sand = 700 + 3800 = 4500

Step 4. Calculate the final ratio = Amount of white / amount of black
3600/4500 = 4/5 or 4 to 5

Explanation	Pre Alge...	Algebra 1
Practice Problem	Geometry	Algebra 2
	All Subjects and all Problems	

Problem ID	Problem Count	Subject Count	HELP
PA2374	227	22	

Selection of all records from Probes table OK.

Choosing a problem type will present that type with a (possible different) generated question at the top. If you are bold, you might choose to work out that problem on paper and then press the Explanation button to view the explanation for that specific instance of that problem type. If you need more practice for that problem type, press the Practice Button.

This will open up the algorithmic problem generator for that specific problem type:

Hint	Show Solution	00:20

800 pounds of white and black sand are in the ratio of 1 to 7. If we add an additional 2400 pounds of white sand and an additional 3800 pounds of black sand.
What will the new ratio of white to black sand be?

The system will generate the same problem type, but with different data. At this point you have two choices: solve the problem or ask for hint. Notice that there is a timer running in the upper right corner. This is to improve your speed as you iterate through this problem type – hopefully getting faster.

If you are not sure how to proceed, you can ask for a hint. You can ask for as many hints, as are available, until you can comfortably calculate the answer. The timer will continue to run until you ask to show the solution.

800 pounds of white and black sand are in the ratio of 1 to 7. If we add an additional 2400 pounds of white sand and an additional 3800 pounds of black sand.
What will the new ratio of white to black sand be?

5 to 9

The answer is displayed, and the timer stops. If you feel that you understand how to solve this type of problem and can do so without carelessness and within a reasonable amount of time, then move on to another problem type. Otherwise show the explanation.

800 pounds of white and black sand are in the ratio of 1 to 7. If we add an additional 2400 pounds of white sand and an additional 3800 pounds of black sand.
What will the new ratio of white to black sand be?

Step 1. Add the initial ratios to get a sum:
  $1 + 7 = 8$

Step 2. Multiply the total amount of sand by each fractional amount to determine:
  The initial amount of White sand = 800 * (1/8) = 100
  The initial amount of Black sand = 800 * (7/8) = 700

Step 3. Determine the final amount of each color of sand.
  White sand = 100 + 2400 = 2500
  Black sand = 700 + 3800 = 4500

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PA2374

The explanation is in a scrollable box with step numbers matching the hints available. If you got a different answer, you might what to compare your approach against the suggested explanation. Remember that there are many ways to solve a problem and yours might not only be different but better – so use yours or adopt ours – your choice.

You may now decide to try again with the same problem type but different data. To either master this problem type, improve you speed or decrease your carelessness. If you press the Next Problem, button.

900 pounds of white and black sand are in the ratio of 4 to 5. If we add an additional 5200 pounds of white sand and an additional 5900 pounds of black sand.
What will the new ratio of white to black sand be?

00:19
08:19

On the third iteration, notice that the problem type is the same, but the data is different. Also note, at the bottom right-hand corner, that we are keeping track of your previous times. The goal of Turbo-Math, is that after a few iterations across many problems:

- Your subject knowledge will improve.
- Your speed will improve.
- Your carefulness will improve.