

Web Based Version

To access our web based version of Turbo-Math visit our web page <https://www.satdiagnostics.com/> and click on the RUN button.

satdiagnostics.com



The 2024 Online Digital SAT incorporates a two-stage hybrid adaptive test format. This means that the score on the first module (mod1) of the Math component dictate whether the second mod the student gets is easy or hard. Each mod contains 20 questions. *The questions themselves are NOT adaptive BUT they are WEIGHTED.*

This version dramatically affects students who are either: (1) not prepared for the most difficult questions or (2) tend to be careless (due more to misreading then calculation). If the student makes it to mod2-hard, they may likely score between 700 – 800. Alternatively, mod2-easy may limit them to the 500 – 600 range. This is all due to the weighting algorithms.

In essence, if you don't move to mod2-hard your grade could result in a 200 point difference. This is a direct result of the combination of question weights and frequency of hard questions in mod2 between hard and easy.

YOU NEED TO FOCUS ON DIFFICULT PROBLEMS AND ELIMINATE CARELESSNESS.

Our application (Turbo-Math) is available for students preparing for the SAT

Web Based *** No Advertisements *** Free and Anonymous *** Login or Password not required. *** No tracking


TURBO-MATH DEALS WITH DIFFICULT PROBLEMS AND CARELESSNESS.

CLICK ON RUN (below) TO ACTIVATE. OR you can click on any question or choose a subject to bring up the associated questions or any grade to bring up the associated subjects.

Once you've chosen a question, the explanation and practice buttons will appear. Choose either and see what happens. ENJOY.**** Scroll down to see the feature set of Turbo-Math ****

RUN

Clicking on the run button will activate the screen below:



TURBO-MATH

			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...	Svs of Equations & Matrices

Difficulty	Question		
Basic	Simplify $(\frac{2}{3} - \frac{1}{7}) / (\frac{2}{5} + \frac{3}{4})$		
Intermedi...	Solve and Simplify: $4 \frac{13}{11} * 7 \frac{3}{7}$		
Basic	Solve $133 \frac{4}{5} + 70 \frac{2}{3}$		
Intermedi...	Which fraction is the largest: $\frac{1}{2}, \frac{1}{4}, \frac{4}{7}$		
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 pounc		
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. $\frac{4}{7}$ are blue. For the probability of choosing a blue marble to incr		

Problem ID	Problem Count	Subject Count
	227	22

HELP

Selection of all records from Probes table OK.

Pre Alge...

Geometry

All Subjects and all Problems

Algebra 1

Algebra 2

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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).

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

Difficulty	Question
Basic	Simplify $(2/3 - 1/7) / (2/5 + 3/4)$
Intermedi...	Solve and Simplify: $4 \frac{13}{11} * 7 \frac{3}{7}$
Basic	Solve $133 \frac{4}{5} + 70 \frac{2}{3}$
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 sho
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 = $1000 * (7/10) = 700$

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
PA2374	227	22

Selection of all records from Probes table OK.

[HELP](#)

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?



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PA2374

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.

Show Explanation

08:19

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



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PA2374

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.

Next Problem

08:19

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:

$$\text{The initial amount of White sand} = 800 * (1/8) = 100$$

$$\text{The initial amount of Black sand} = 800 * (7/8) = 700$$

Step 3. Determine the final amount of each color of sand.

$$\text{White sand} = 100 + 2400 = 2500$$

$$\text{Black sand} = 700 + 3800 = 4500$$



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The explanation is in a scrollable box with step numbers matching the hints available. If you got a different answer, you might want 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 your speed or decrease your carelessness. If you press the Next Problem, button.

Hint

Show Solution

00:10

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?



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PA2374

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.