



Advanced Qualifying for Terra Fairs

TO: Students not yet in Grade 6

FR: Your Fair Director

RE: How you might qualify for competition if you *really* want to ...

In New York State, few school districts provide advanced math classes before eighth grade. As a result, fair directors are not always able to identify young people whose mathematics studies are already at the sixth grade level. However, such achievement levels in mathematics would logically permit a competition to accept such a student as a sixth grader, as mathematics is the language of science and engineering.

As a student in a Terra Fair territory, you may choose to complete the attached Houghton Mifflin Middle School Mathematics Placement Test.

If your parent, teacher or mentor verifies that you passed the 5/4 segment of the placement test at an 80% level, this will be considered documentation that you are able to study at the 6/5 level. You may register for the science fair as a 6th grade competitor in the Junior Level of the fair.

Access to Placement Test Answer Sheet

www.hmhco.com/~media/sites/home/education/global/pdf/placement/mathematics/k-12/saxon-math-homeschool/sms_plt_middlegrades.pdf?la=en

OR

Search on "Houghton Mifflin Math Placement Middle School"

Terra Science and Education

835 West Genesee Street, Syracuse NY 13204
www.terrafairs.org

Middle Grades Math Placement Test

For Students New to the Saxon Math Program



The Objective

This test can be used to help teachers find the best initial placement for students who are new to the *Saxon Math* program. This test includes selected content from *Math 5/4*, *Math 6/5*, *Math 7/6*, *Math 8/7*, and *Algebra $\frac{1}{2}$* . Please note that this placement test is not infallible. It is simply one indicator that can be used to place students. The best placement for most students is to start the year in the textbook designed for students at that grade level (*Math 5/4* for fourth grade, *Math 6/5* for fifth grade, *Math 7/6* for sixth grade, *Math 8/7* for seventh grade, and *Algebra $\frac{1}{2}$* for eighth grade). Students who have missed math concepts in their previous study may be better served beginning one textbook level lower. Exceptional students, at either end of the spectrum, can be well served when they are placed at levels consistent with their competencies. This test is not intended for use with current Saxon students.

The Rules

1. Allow the student to work until he/she cannot complete any more problems.
2. The student may not use a calculator during the test.
3. The student should work independently without coaching or other assistance.
4. The student should show all of his/her work. Look over the student's work carefully as you grade the test.
5. Use the placement guide provided along with sound judgment to help you place the student in the most appropriate book.

The Score

- Fifteen or fewer correct from Questions 1–20 and the student is an average-to-accelerated fourth grader: Student may begin *Math 5/4*.
- Sixteen or more correct from Questions 1–20: Student may begin *Math 6/5*.
- Sixteen or more correct from Questions 1–20 and 16 or more correct from Questions 21–40: Student may begin *Math 7/6*.
- Sixteen or more correct from Questions 21–40 and 16 or more correct from Questions 41–60: Student may begin *Math 8/7*.
- Sixteen or more correct from Questions 41–60 and 16 or more correct from Questions 61–80: Student may begin *Algebra $\frac{1}{2}$* .
- Sixteen or more correct from Questions 61–80 and 16 or more correct from Questions 81–100: Student may begin *Algebra 1* or be given an additional test for possible placement in a higher-level text.

An answer sheet and scoring chart are online at

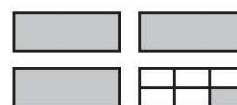
http://www.hnhco.com/~media/sites/home/education/global/pdf/placement/mathematics/k-12/saxon-math-homeschool/sms_plt_middlegrades.pdf?la=en

Show Your Work!

Math 5/4

1. Mae-Ying bought a package of paper priced at \$1.98 and 2 pens priced at \$0.49 each. The tax on the entire purchase was 18¢. What was the total cost of the items?
2. Seventy-five beans were equally divided into five pots. How many beans were in each pot?
3. Robo could run 7 miles in 1 hour. At that rate, how many miles could Robo run in 3 hours?
4. At 11:45 A.M. Jason glanced at the clock. His doctor's appointment was in $2\frac{1}{2}$ hours. At what time was his appointment?
5. Find the sixth number in this counting sequence: 7, 14, 21, . . .

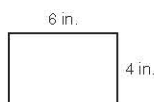
6. Write the number of shaded rectangles shown as a mixed number.



7. Twenty-five percent of this square is shaded.
What percent of the square is not shaded?

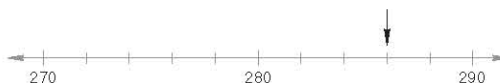


8. What is the perimeter of this rectangle?



9. A square has one side that is 7 inches long. What is the area of the square?

10. To what number is the arrow pointing?



11. $4.2 + 3.5 + 0.25 + 4.0$

12.
$$\begin{array}{r} 460 \\ \times 9 \\ \hline \end{array}$$

13. $6\overline{)3795}$

14. $6 \times 4 \times 10$

15.
$$\begin{array}{r} \$4.86 \\ + \$2.95 \\ \hline \end{array}$$

Find each missing number for 16–17:

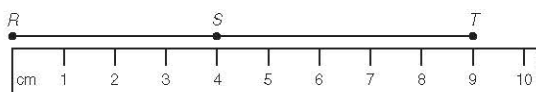
16.
$$\begin{array}{r} z \\ + 179 \\ \hline 496 \end{array}$$

17.
$$\begin{array}{r} 67 \\ - B \\ \hline 16 \end{array}$$

18. Use digits to write the number three hundred forty-three.

19. Which digit in 6.125 is in the hundredths place?

20. What is the length of \overline{ST} ?



Math 6/5

21. In 2 hours the 3 boys picked a total of 1347 cherries. If they share the cherries evenly, then each boy will get how many cherries?
22. After paying \$7.50 for a movie ticket, Salvador still had \$3.75. How much money did Salvador have before paying for a ticket?
23. When three new members joined the club, the number of members increased to 28. How many members were in the club before the new members arrived?
24. Adriana's age is $\frac{1}{3}$ of her dad's age. If her dad is 36 years old, how old is Adriana?
25. Estimate the sum of 672 and 830 by rounding to the nearest hundred before adding.

26. Use digits to write eight hundred eighteen thousand, eighty.

27.
$$\begin{array}{r} \$2.54 \\ 5.36 \\ + 0.75 \\ \hline \end{array}$$

28. $7 \times 8 \times 10$

29.
$$\begin{array}{r} 4287 \\ \times 5 \\ \hline \end{array}$$

30. $3647 \div 6$

31.
$$\begin{array}{r} 41,026 \\ - 39,543 \\ \hline \end{array}$$

32. $30m = 6000$ Find m .

33. $\$10 - (\$5.80 + 28\text{¢})$

34. $1\frac{3}{4} + 1\frac{3}{4}$

35. $\frac{7}{25} = \frac{\square}{100}$

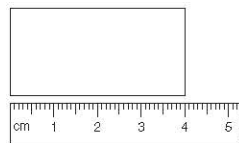
36. Half of 100 is 50, and half of 50 is 25. What number is half of 25?

37. A stop sign is the shape of an octagon. An octagon has how many sides?

38. What are the next three terms in this counting sequence?

... , 2700, 2800, 2900, _____, _____, _____, ...

39. This rectangle is half as wide as it is long. What is the perimeter of the rectangle?



40. The length of segment AC is 78 millimeters. If BC is 29 millimeters, then what is the length of segment AB ?

