

Diagnostic Test—How it Works.

Step 1: Take the Test

There are two effective ways for the student to take the test, depending on their learning style. Method one is to let the student take the test all by themselves, with no help, to get an accurate picture of their understanding. And if the student finds a particular problem to be too difficult, they can mark it as wanting more practice.

The other effective method is to assist the student in working through all of the problems, but marking any that take coaching or don't come easy.

You can lower the pressure and fear by giving the test over two days. Try to have the student treat it as a practice sheet, and if they don't know the answer, they can skip over the question.

After it is completed, have them go back and read all the directions a second time to see if they missed something.

Since this is the most crucial step, we are happy to help with advice or assistance in taking the test. Feel free to contact us with any questions!

Step 2: Score the Test

Compare the student's answers with the answer key and mark every incorrect answer.

If between 51 and 100 of answers are correct, Refresh Math 5 Study Time will be a good choice. If 50 or less are correct, we recommend moving to Refresh Math 4. If 101 or more answers are correct, you can move on to Refresh Math 6, or the full Study Time 6 curriculum.

Step 3: Submit Test Results

To generate custom materials yourself, go to educationexplorations.net/refreshtechpreview and select the toggle switch for each answer that was incorrect on the Diagnostic Test. You can also select any questions that the student had correct but struggled with. After the selection has been made, press the button to open the results in a new window. Hooray! You have just created a custom book, specially made for your student. You can now choose the print option in your browser and print off worksheets for the entire book.

If you prefer a neatly stapled and folded booklet, or if you want us to generate everything for you, just send us:

- A copy of the completed test, or a list of wrong answers
- Your name
- Shipping address
- Phone number
- Email address

Education Explorations, Inc.
PO Box 793
Harrisonburg, VA 22803
testing@educationexplorations.net
540-908-9693

Refresh Math 5 Diagnostic Test

1. Find the missing addends. Check your work.

a. $36 + n = 90$

b. $1485 = 645 + n$

c. $n + 126 = 1004$

2. Find the answers. Show your work to check.

A.

$$\begin{array}{r} \$66.54 \\ 247.69 \\ 96.73 \\ 8.89 \\ + 485.55 \\ \hline \end{array}$$

B.

$$\begin{array}{r} 45,959 \\ 37,271 \\ 2,566 \\ 743 \\ + 68,378 \\ \hline \end{array}$$

C.

$$\begin{array}{r} 70,004 \\ - 42,468 \\ \hline \end{array}$$

D.

$$\begin{array}{r} 958,006 \\ - 274,359 \\ \hline \end{array}$$

3. Write the times.

A



B

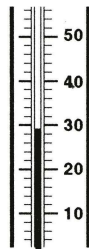


C

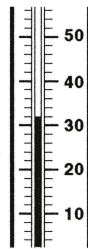


4. Write the temperatures showing Fahrenheit.

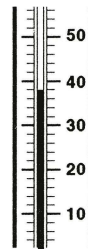
A



B



C



5. Write the missing numbers.

- a. $\frac{1}{4}$ hour = _____ minutes $\frac{1}{2}$ hour = _____ minutes 1 day = _____ hours
- b. 1 yard = _____ inches or _____ feet 1 mile = _____ feet or _____ yards

6. Use the following sets of fractions to do examples a. and b.

Set A $\frac{3}{5}$ $\frac{2}{5}$ $\frac{5}{5}$

Set B $\frac{1}{7}$ $\frac{1}{2}$ $\frac{1}{9}$ $\frac{1}{5}$

Set C $\frac{4}{7}$ $\frac{2}{7}$ $\frac{7}{7}$ $\frac{5}{7}$

- a. Write each fraction which means one whole. _____
- b. Are the fractions in set A like or unlike fractions? _____

7. Write each set of fractions above in the blanks from largest to smallest.

Set A _____

Set B _____

Set C _____

Use the correct symbols (< > =) to make true statements.

8. a. 30 hundreds _____ 300 ones b. 240 ones _____ 23 tens
9. c. 4 nickels _____ 4 dimes d. 4 quarters _____ 8 dimes

10. Write T for true or F for false for the following:

- a. When multiplying any number by zero, the product is always zero. _____
- b. When we divide by 1, the dividend and quotient are the same. _____
- c. When multiplying any number by 1, the product is always 1. _____
- d. The quotient is always 1 when we divide by an equal number. _____

11. Measure the lines to the nearest $\frac{1}{4}$ ".



a. _____



b. _____

12. Draw lines to show the lengths.

a. $4\frac{3}{8}$ " •

b. $5\frac{3}{16}$ " •

13. Make equal fractions.

a. $\frac{1}{5} = \frac{\quad}{10}$

b. $\frac{3}{4} = \frac{\quad}{12}$

c. $\frac{2}{3} = \frac{\quad}{9}$

d. $\frac{3}{8} = \frac{\quad}{16}$

14. Write the table numbers for the 4 and 10 families.

a. 4 _____

b. 10 _____

15. Write the missing numbers.

a. Leap year = _____ days; 1 minute = _____ seconds

b. 1 year = _____ months or _____ weeks or _____ days.

c. 1 month = _____ weeks or _____ days; 7 days = _____ week

16. Answer these questions about 540,293,761.

a. How many ten million? _____ c. 9 is in what place? _____

b. How many millions? _____ d. 4 is in what place? _____

17. Write the number 958,075,230 in words. _____

18. Count change for this sale from the amount in parenthesis.

\$5.79 from (\$20.00) _____

19. Find the answer.

a. $12 \times 10 =$ _____ b. $30 \div 10 =$ _____ c. $25 \div 5 =$ _____ d. _____ $= 15 \div 3$

20. Write the products.

a. $\begin{array}{r} \$341.05 \\ \times \quad 7 \\ \hline \end{array}$

b. $\begin{array}{r} \$450.32 \\ \times \quad 9 \\ \hline \end{array}$

21. Round these numbers to the nearest 100 or nearest dollar and give estimated answers.

a. $2189 + 5214$ _____ b. $\$87.50 - \24.42 _____

22. In one section of the hospital there are 18 rooms with 2 beds in each room. In another section there are 40 rooms with 1 bed in each room. **How many beds are in the 2 sections?**

23. The nurses of Parkview's Home Hospice made 98,217 visits to sick people in 1997. **If you knew how many visits were for adults, how would you find out how many visits were for children?**

24. After leaving the hospital, Allen and Dad went to the bus station. Clock A shows when they arrived at the station. Clock B shows the time they left the station for home. **Write the time for each clock in the blanks.**

A



B



25. Write the answer.

$$10 \times 2 + 12 \times 5 - 4 \times 10 = \underline{\hspace{2cm}}$$

26. Write the pairs of factors for the numbers in each set.

a. 22

121

b. 12

24

27. Write the greatest common factor for each set of numbers above. a. _____ b. _____

28. Find how many:

a. Pt. and c. in 25 c. _____ b. Yr. and mo. in 100 mo. _____

29. Add or Subtract. Beside each answer write the fractions in lowest terms.

a.
$$\begin{array}{r} \frac{15}{21} \\ - \frac{3}{21} \\ \hline \end{array}$$

b.
$$\begin{array}{r} \frac{7}{15} \\ + \frac{2}{15} \\ \hline \end{array}$$

c.
$$\begin{array}{r} \frac{4}{16} \\ + \frac{3}{16} \\ \hline \end{array}$$

d.
$$\begin{array}{r} \frac{11}{12} \\ - \frac{3}{12} \\ \hline \end{array}$$

30. One week Allen spent 15 minutes, 22 minutes, 18 minutes, 18 minutes, 28 minutes. 20 minutes and 19 minutes doing the breakfast dishes. **How many minutes did Allen average doing dishes that week?**

31. Draw these models:

a. Line

b. Point

c. Intersecting rays

d. Parallel line segments

e. Perpendicular lines

f. Right angle

32. Solve and check your work.

a.
$$\begin{array}{r} 601 \\ \times 5 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 910 \\ \times 9 \\ \hline \end{array}$$

c.
$$8 \overline{)720}$$

d.
$$7 \overline{)5607}$$

33. Write these units of dry measure from smallest to largest. gal pt tsp c qt bu tbsp

34. Write the answers using only short division.

a. $\frac{1}{9}$ of 8109 = _____

b. $\frac{1}{8}$ of 568 = _____

35. Solve these using long division. Check your work.

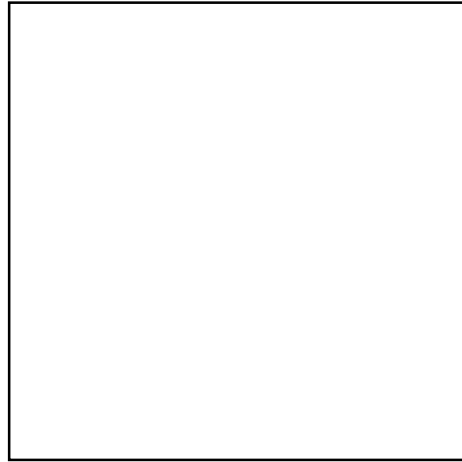
a.
$$7 \overline{)52}$$

b.
$$4 \overline{)30}$$

36. Anna cooked 21 ears of sweet corn for supper. How many ears of corn could each of the 8 people eat? _____

37. Create a vertical bar graph to show how many quarts of pickles the Frys canned of each kind below. Make sure to add the titles.

Kinds of pickles	Quarts
Sweet and sour	25
Bread and butter	26
Banana	17
Sweet	33
Baby dill	14



38. With tally marks show how many quarts of banana pickles the Frys canned in the example above.

39. Write the missing numbers and words.

a. 1 _____ = 100 years 1 _____ = 1000 years 1 _____ = 10 years

b. 1 cm = _____ mm 1 m = _____ cm 1 km = _____ m 1 m = _____ mm

c. _____ fractions mean less than one whole. (proper or improper)

d. _____ fractions mean one whole or more than one whole. (proper or improper)

40. Write the formula for finding the area of a:

a. Square _____

b. Rectangle _____

41. Make a scale drawing of a tabletop having actual dimensions of 4' by 8'. Use the scale: 1 cm = 2 feet.

42. Find the area in cm^2 and the perimeter in cm of the scale drawing in the previous example.

a. Area _____

b. Perimeter _____

43. Fill in the blanks:

a. _____ square inches = 1 square foot

b. _____ square feet = 1 square yard

44. Find the missing numbers.

a. $6 \times n = 2346$

b. $n \div 6 = 75$

c. $n \div 5 = 68$

45. Multiply each number by 10 and 100 and 1000

a. 219 _____

b. 4576 _____

46. Find the answers.

a. $(56 \div 8) \times (16 - 4) + 9 =$ _____

b. $4 \times 3 \times (88 \div 8) - (9 - 7) =$ _____

47. Find the product. Check by reversing the factors.

$$\begin{array}{r} 82 \\ \times 59 \\ \hline \end{array}$$

48. Divide, using short division.

a. $7 \overline{) \$68.06}$

b. $8 \overline{) \$779.84}$

49. Fred buys glue by the gallons and puts it into pint bottles to use. **How many pint bottles can be filled with 3 gallons?**

50. With 1 gallon of glue lasting 8 weeks, express the division as a fraction to show what part was used in a week.

51. Write the sums and remainders.

a. $8 \frac{3}{10}$
 $- 4$

b. $9 \frac{6}{8}$
 $+ 5 \frac{4}{8}$

c. $15 \frac{3}{7}$
 $- 4 \frac{3}{7}$

d. $\frac{5}{6}$
 $+ \frac{4}{6}$

52. 930,456,087,201 has:

_____ in ten billions' place, _____ in hundred millions' place.

53. Divide, using long division. Write the remainders as fractions.

a. $9 \overline{)3549}$

b. $7 \overline{)55,695}$

54. Write the missing words or numbers.

a. Any number ending in an _____ is divisible by 2.

b. Any number ending in 5 is divisible by _____.

c. Any number ending in 0 is divisible by _____, _____ and _____.

d. 1 square mile = _____ acres

55. Some flowers have 6 petals. Write the multiple of 6 that tells how many petals on:

a. 9 flowers _____

b. 12 flowers _____

c. 19 flowers _____

56. Work these problems.

a.
$$\begin{array}{r} 35 \\ \times \frac{1}{2} \\ \hline \end{array}$$

b.
$$\begin{array}{r} \frac{3}{10} \\ \times \frac{2}{6} \\ \hline \end{array}$$

c.
$$\begin{array}{r} 3\frac{1}{3} \\ \times 2\frac{7}{10} \\ \hline \end{array}$$

d.
$$\begin{array}{r} 5\frac{1}{2} \\ - 3\frac{2}{3} \\ \hline \end{array}$$

e.
$$\begin{array}{r} 9\frac{2}{6} \\ - 3\frac{1}{2} \\ \hline \end{array}$$

f.
$$\begin{array}{r} 6\frac{1}{3} \\ + 5\frac{3}{4} \\ \hline \end{array}$$

57. Write the missing numbers.

a. To multiply by 100, we add _____ zeros.

b. To multiply by 1000 we add _____ zeros.

c. 7 hectoliters = _____ liters

d. 22 kiloliters = _____ liters

58. Work these problems.

a. $74 \overline{) 362}$

b. $45 \overline{) 2945}$

c.
$$\begin{array}{r} 952 \\ \times 879 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 24,890,000 \\ \times \quad 700 \\ \hline \end{array}$$

59. Round each number to the nearest million.

a. 425,493,861 _____

b. 60,968,372 _____

c. 82,924,376,540 _____

60. Round 82,924,376,540 to nearest billion. _____

61. Give estimated products.

a.
$$\begin{array}{r} 542,678 \\ \times 471 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 761,245,243 \\ \times 832 \\ \hline \end{array}$$

62. The farmer harvested 1800 pounds of oats per acre. Oats weigh 32 pounds per bushel. How many bushels of oats did he harvest per acre?

63. Write the missing words.

- a. The decimal for $\frac{10}{10}$ is _____.
- b. When multiplying decimals by 10 or 100 move the decimal point to the _____.
- c. When dividing decimals by 10 or 100 move the decimal point to the _____.

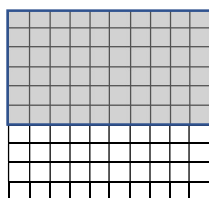
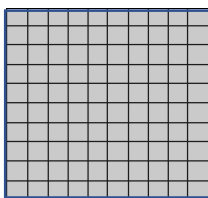
64. Write P for positive or N for negative for each of these numbers.

- a. -17 _____ b. $58\frac{1}{3}$ _____ c. 125 _____ d. $-9\frac{2}{7}$ _____ e. - 426 _____ f. $12\frac{5}{8}$ _____ g. $1\frac{1}{4}$ _____ h. 73 _____

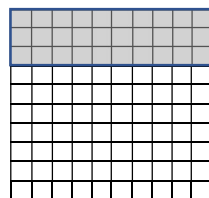
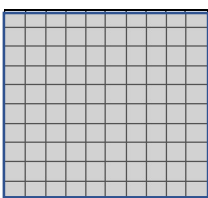
65. Write each mixed number from the previous example. _____

66. For the shaded part of the picture at the right, write the:

a. Mixed number _____



b. Mixed decimal _____



67. Write the number that has:

- a. 57 ones, 5 tenths and 3 hundredths. _____
- b. 4178 hundredths _____
- c. 256 tenths and 7 hundredths _____

68. Work the examples.

a.
$$\begin{array}{r} 10.8 \\ + 239.57 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 29 \\ - 10.2 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 35.57 \\ - 6.93 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 756 \\ \times 2.9 \\ \hline \end{array}$$

69. Circle the fractions in each row that have the same value as:

a. 0.40 $\frac{400}{100}$ $\frac{1}{4}$ $\frac{4}{10}$ $\frac{3}{4}$ $\frac{2}{6}$

b. 0.25 $\frac{2}{1000}$ $\frac{25}{200}$ $\frac{1}{4}$ $\frac{25}{10}$ $\frac{260}{1000}$

70. Write the factors for:

a. 17 _____

b. 21 _____

c. 16 _____

d. 2 _____

71. Write P for prime or C for composite for each number in the previous Example.

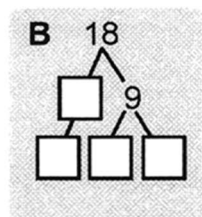
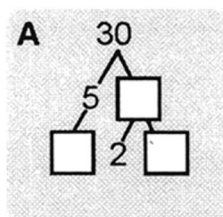
a. _____

b. _____

c. _____

d. _____

72. Finish the factoring in box A and B to find the prime factors for 30 and 18.

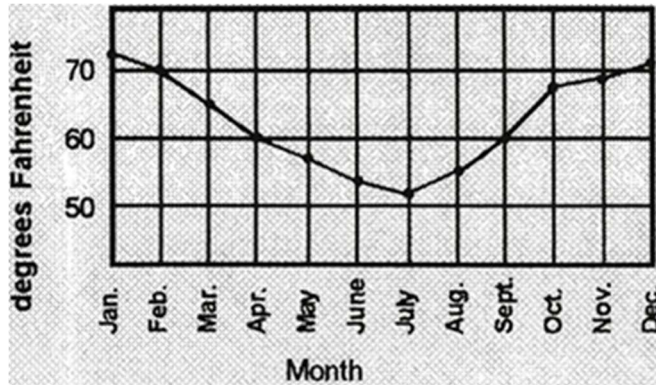


73. Write the following decimals from smallest to largest.

0.39 0.394 0.3 _____

74. Use the line graph to answer Examples a. - d.

Average Temperature of Uruguay



- a. Which month has the coldest temperature? _____
- b. Which month has the warmest temperature? _____
- c. Between which two months did the temperature increase the most? _____
- d. Which 2 months has the same average temperature? _____