

This test has been added to the newest printing of the Algebra 1 Student Text.

To the Parent: Please read the "How to Use" in your *Teacher Manual* before teaching this course. Since algebra builds upon previously studied concepts, the first step is to have your student take the following readiness test. The test answers are at the end of this file. If the test reveals gaps in the student's understanding, please contact your trained Math-U-See representative and find out how to rebuild your student's math foundation. This course assumes a thorough grasp of the four basic operations (addition, subtraction, multiplication, and division), along with a mastery of fractions, decimals, percents, and pre-algebra.

Solve.

$$1) \frac{1}{2} \text{ of } 36 =$$

$$2) \frac{2}{3} \text{ of } 12 =$$

$$3) \frac{7}{8} \text{ of } 56 =$$

Fill in the missing numbers in the numerators or denominators to make equivalent fractions.

$$4) \frac{2}{5} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{20}$$

$$5) \frac{3}{7} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{12}{\quad}$$

Follow the signs. Reduce fractional answers, and rewrite any improper fractions as mixed numbers.

$$6) \frac{1}{2} + \frac{3}{4} + \frac{5}{8} =$$

$$7) \frac{4}{5} - \frac{2}{3} =$$

$$8) \frac{1}{5} \div \frac{1}{6} =$$

$$9) 4 \frac{2}{3} \div \frac{7}{18} =$$

$$10) \frac{3}{5} \times 2 \frac{1}{4} \times 4 \frac{1}{3} =$$

$$11) 4 \frac{1}{2} - 3 \frac{2}{3} =$$

$$12) \text{ Change to an improper fraction: } 6 \frac{5}{7}$$

Add or subtract the decimal numbers.

$$13) \begin{array}{r} 8.63 \\ - 1.85 \\ \hline \end{array}$$

$$14) \begin{array}{r} 7.0 \\ + 6.38 \\ \hline \end{array}$$

$$15) \begin{array}{r} 21.052 \\ - .485 \\ \hline \end{array}$$

Multiply the decimal numbers.

$$16) \begin{array}{r} 4.29 \\ \times .5 \\ \hline \end{array}$$

$$17) \begin{array}{r} 2.7 \\ \times 3 \\ \hline \end{array}$$

$$18) \begin{array}{r} .005 \\ \times .08 \\ \hline \end{array}$$

Divide and round to the nearest hundredth.

$$19) 5 \overline{) 16.6}$$

$$20) .04 \overline{) .033}$$

$$21) 11 \overline{) 8.}$$

Write each percent as a decimal.

22) $6\% =$

23) $45\% =$

Change each fraction to a decimal and then to a percent.

24) $\frac{6}{10} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}\%$

25) $\frac{1}{4} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}\%$

Follow the signs.

26) $(-7) + (-24) =$

27) $(-6) \times (-14) =$

28) $(10) - (-5) =$

29) $(-36) \div (9) =$

Simplify.

30) $-1^2 =$

31) $-(-5)^3 =$

32) $(-5)^2 =$

33) $(-\frac{2}{5})^2 =$

Write in standard notation.

34) $2 \times 10^3 + 7 \times 10^2 + 1 \times 10^1 + 6 \times 10^0 + 8 \times \frac{1}{10^1} =$

Simplify each expression.

35) $\sqrt{81} =$

36) $\sqrt{25} =$

37) $\sqrt{x^2} =$

Answer the questions.

38) What is the Greatest Common Factor (GCF) of 14 and 28?

39) What is the Greatest Common Factor (GCF) of 56 and 64?

40) What is the Least Common Multiple (LCM) of 5 and 8?

41) What is the Least Common Multiple (LCM) of 6 and 9?

42) What are the prime factors of 56?

43) What are the prime factors of 75?

44) What is the value of $|-7|$?

45) What is the multiplicative inverse, or reciprocal, of 4?

Concepts in numbers 1–12 are taught in Epsilon.

Concepts in numbers 13–25 are taught in Zeta.

Concepts in numbers 26–45 are taught in Pre-Algebra.

$$1) \frac{1}{2} \text{ of } 36 = 18$$

$$2) \frac{2}{3} \text{ of } 12 = 8$$

$$3) \frac{7}{8} \text{ of } 56 = 49$$

$$4) \frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20}$$

$$5) \frac{3}{7} = \frac{6}{14} = \frac{9}{21} = \frac{12}{28}$$

$$6) \frac{1}{2} + \frac{3}{4} + \frac{5}{8} =$$

$$\frac{4}{8} + \frac{6}{8} + \frac{5}{8} = \frac{15}{8} = 1 \frac{7}{8}$$

$$7) \frac{4}{5} - \frac{2}{3} =$$

$$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$$

$$8) \frac{1}{5} \div \frac{1}{6} =$$

$$\frac{1}{5} \times \frac{6}{1} = \frac{6}{5} = 1 \frac{1}{5}$$

$$9) 4 \frac{2}{3} \div \frac{7}{18} =$$

$$\frac{\cancel{2}^2}{\cancel{3}} \times \frac{18^6}{\cancel{7}} = 12$$

$$10) \frac{3}{5} \times 2 \frac{1}{4} \times 4 \frac{1}{3} =$$

$$\frac{\cancel{3}}{5} \times \frac{9}{4} \times \frac{13}{\cancel{3}} = \frac{117}{20} = 5 \frac{17}{20}$$

$$11) 4 \frac{1}{2} = 3 \frac{9}{6}$$

$$\begin{array}{r} - 3 \frac{2}{3} = -3 \frac{4}{6} \\ \hline \frac{5}{6} \end{array}$$

$$12) 47/7$$

$$13) \begin{array}{r} 8.63 \\ - 1.85 \\ \hline 6.78 \end{array}$$

$$14) \begin{array}{r} 7.0 \\ + 6.38 \\ \hline 13.38 \end{array}$$

$$15) \begin{array}{r} 21.052 \\ - .485 \\ \hline 20.567 \end{array}$$

$$16) \begin{array}{r} 4.29 \\ \times .5 \\ \hline 2.145 \end{array}$$

$$17) \begin{array}{r} 2.7 \\ \times 3 \\ \hline 8.1 \end{array}$$

$$18) \begin{array}{r} .005 \\ \times .08 \\ \hline .0004 \end{array}$$

$$19) \begin{array}{r} 3.32 \\ 5 \overline{) 16.60} \end{array}$$

$$20) \begin{array}{r} .825 \text{ rounds to } .83 \\ 0.4 \overline{) 03.300} \end{array}$$

$$21) \begin{array}{r} .727 \text{ rounds to } .73 \\ 11 \overline{) 8.000} \end{array}$$

22) $6\% = .06$

23) $45\% = .45$

24) $\frac{6}{10} = .6 = .60\%$

25) $\frac{1}{4} = .25 = .25\%$

26) $(-7) + (-24) = -31$

27) $(-6) \times (-14) = 84$

28) $(10) - (-5) = 15$

29) $(-36) \div (9) = -4$

30) $-1^2 = -(1)(1) = -1$

31) $-(-5)^3 = -(5)(5)(5) = -125$

32) $(-5)^2 = (-5)(-5) = 25$

33) $(-\frac{2}{5})^2 = (-\frac{2}{5})(-\frac{2}{5}) = \frac{4}{25}$

$$\begin{aligned} 34) \quad & 2 \times 10^3 + 7 \times 10^2 + 1 \times 10^1 + 6 \times 10^0 + 8 \times \frac{1}{10^1} = \\ & 2 \times 1000 + 7 \times 100 + 1 \times 10 + 6 \times 1 + 8 \times .1 = \\ & 2000 + 700 + 10 + 6 + .8 = 2,716.8 \end{aligned}$$

35) $\sqrt{81} = 9$

36) $\sqrt{25} = 5$

37) $\sqrt{X^2} = X$

38) 14

39) 8

40) 40

41) 18

42) $2 \times 2 \times 2 \times 7 = 56$

43) $5 \times 5 \times 3 = 75$

44) 7

45) $\frac{1}{4}$