



ALGEBRA 1 PREP

This is a self-test to determine if the Algebra 1 Prep class is suitable for your student.

Students should be able to answer **22 of the Fundamentals problems and 6 of the Problem-Solving problems correctly within 1 hour. No calculator is allowed.** If a student struggles with these problems, then he/she might want to consider our Ellipsis Prealgebra classes that are offered in the fall semester or work on Pre-Algebra skills more comprehensively through FlexMath program.

Fundamental problems:

1. Compute: 51×309 15,759
2. Compute: $11169 \div 17$ 657
3. Evaluate: $\frac{2}{5} + \frac{3}{8}$ $\frac{31}{40}$
4. Evaluate: $3\frac{1}{6} - \frac{1}{4}$ $2\frac{11}{12}$
5. Evaluate: $\frac{15}{4} \times \frac{16}{25}$ $2\frac{2}{5}$ or $\frac{12}{5}$
6. Evaluate: $10 \div \frac{2}{3}$ 15
7. Evaluate: $2\frac{1}{2} \div \frac{5}{2}$ 1
8. Evaluate: $1\frac{3}{8} + \frac{1}{8} \times 6$ $\frac{17}{8}$ or $2\frac{1}{8}$

9. Convert $13/4$ to a mixed number. $3\frac{3}{4}$
10. Convert the following fraction to decimals: $\frac{7}{20}$ 0.35
11. Convert the following fraction to decimals: $\frac{13}{4}$ 3.25
12. Convert the following fraction to decimals: $\frac{1}{8}$ 0.125
13. Convert the following to fraction in simplest form: 0.08 $\frac{2}{25}$
14. Convert the following to fraction in simplest form: 0.625 $\frac{5}{8}$
15. Convert the following to fraction in simplest form: 3.64 $\frac{91}{25}$
16. Select all of the following which are true about 37%?
 - a. It's like having \$37.00.
 - b. It's the same as 37 hundredths.
 - c. It equals 3.7.
 - d. It's like having 37 parts out of 100.
 - e. It's the same as 37/100 .
 - f. If 100 cookies were divided into 37 groups, that would be 37%.

17. Place Value. Which place value is the digit 9 in the following number? 503.092 Hundredths
18. Which place value is 10 times smaller than the hundredths place? Thousandths

19. Compute: 44.2×1.2 **53.04**
20. Compute: $0.005 \div \underline{\hspace{1cm}} = 25$ **0.0002**
21. Compute: $105 \div 0.5$ **210**
22. Compute: $0.008 \times \underline{\hspace{1cm}} = 1$ **125**
23. Evaluate: $4^3 - (41 + 5) \times 0.1$ **59.4**
24. What is the GCF and LCM for 9 and 15. **GCF = 3; LCM = 45**
25. List the following numbers in order from least to greatest:

$-20.5, -30, 1.5, 0.25, \frac{3}{5}, -\frac{1}{6}$ **$-30, -20.5, -\frac{1}{6}, 0.25, \frac{3}{5}, 1.5,$**

Problem Solving

- The ratio of teachers to students in a particular school is 1 to 11. The ratio of female students to the total number of students is 4 to 9. If there are 396 female students, then how many teachers are there?
81 teachers
- Ronald's age is double Ryan's age. The product of their ages in years is 72. How old is Ryan? **6**
- A local store is selling a 6-pack of 100watt light bulbs for \$9.50. An online retailer is currently selling an 8-pack of 100watt bulbs for \$12 (shipping included). Which deal is the better buy, and why?
The online retailer is the better buy because the cost per bulb is only \$1.50 vs. \$1.58 for the local store.
- Jeffrey typed 110 words in $2\frac{3}{4}$ minutes. At this rate, how many words can he type in $4\frac{1}{4}$ minutes? **170 words**
- A rectangular tank measures 12 inches long, 8 inches wide, and 40 inches high. What is the volume of the water in cubic inches, when it is $\frac{1}{4}$ filled? **960 in³**
- Loren made 20 ounces of a snack mix that was $\frac{2}{5}$ peanuts, 25% raisins, and 4 ounces of chocolate chips. The rest was granola. How many ounces of granola were in Loren's snack mix? **3 ounces**
- Three-fourth liter of milk can fill 4 similar glasses. How many such glasses can 3 liters of milk fill? **16**
- Lynn participated in a 100-m race. She completed the race in 12 seconds. What was her average speed per minute? **500m/min**
- Mr. Spark drove from City A to City B at an average speed of 108 km/h. He took 4 hours to complete to journey and this includes a 20-minute break. What is the distance between City A and City B? **396 km**
- Veer donated \$5 for every \$4 donated by Joshua. If they donated \$1800 altogether, how much money did Joshua donate? **\$800**