

## Algebra I Pretest

**Directions:** This test is to assess readiness for Algebra I. There is not a passing grade, the final decision regarding placement will be left to the parent. Students are not permitted to use a calculator on any part of the test. Work all of the following problems *on a separate piece of paper*. **Show ALL work.** Express all answers in simplest form (reduce any fractions if possible). Write a “?” next to any question which covers unfamiliar material. Answers are available to parents on request or tests may be mailed to the tutor for grading and input.

**Time limit: one hour**

**DO NOT WRITE ON THIS TEST.**

- Evaluate and round to two decimal places:  $5.61 \times 4.7$
- $\frac{5}{12} + \frac{1}{3} = ?$
- $4\frac{1}{5} \times 7\frac{1}{3} = ?$
- Evaluate and round to the nearest hundredth:  $9.87 \div 0.3$
- In nine years Sarah will be 15 years old. How old is Sarah now?
- There are 2.54 cm in one inch. How many cm are in six yards?
- $(+11) + (-4) = ?$
- $|3 - 7| = ?$
- $7.19 - 2.3 = ?$
- $1.16 + 10.3 + 7.09 = ?$
- Put these numbers in order from smallest to largest: 0.5, 0.05, -.5, 0.15, 1.0
- $3 + 5 \cdot 4 = ?$
- $2^3 \div 4 + 6 \cdot 3 = ?$
- Evaluate:  $4x - 6$  when  $x = 5$
- A rectangle has a length of twelve inches and a width of four inches. What is its perimeter?
- There are 54 students going on a field trip. If each van can carry six students, how many vans will be necessary to carry all the students?
- Change from a mixed number to an improper fraction:  $6\frac{2}{7}$
- $2^3 = ?$
- $4 + (-7) + 2 + (-5) = ?$
- $$\begin{array}{r} 28 \\ \times 3 \\ \hline \end{array}$$
- $$\begin{array}{r} 814 \\ 857 \\ + 311 \\ \hline \end{array}$$
- $$16 \overline{)216}$$

23. Which one of the following fractions represents the number 1?  $\frac{4}{1}, \frac{4}{4}, \frac{4}{8}, \frac{1}{4}$
24. Draw a rectangle and shade  $\frac{3}{6}$  of it.
25. Write 48 as the product of prime factors.
26. Find the least common multiple of 3, 4, and 6.
27. A bag contains red and blue marbles. There are seven times as many red marbles as blue marbles, and there are eight blue marbles. How many red marbles are in the bag?
28. Find the greatest common factor of 12 and 28.
29. Round 40.5656 to the nearest tenth.
30. Change  $\frac{5}{1000}$  to decimal.
31. Evaluate:  $-x^2$  when  $x = 3$
32. Change  $3\frac{4}{5}$  to decimal.
33.  $\frac{1}{3} = \underline{\quad? \quad} \%$
34. What percent of 20 = 8?
35. Write the decimal which represents “two and sixteen thousandths”.
36. Use words to write the number: 22,738,904
37. Find the least common denominator for the fractions  $\frac{2}{4}, \frac{1}{6},$  and  $\frac{7}{8}$ .
38. Round to the nearest thousandth:  $0.17\overline{)8.32}$
39. What fraction of 72 is 21?
40. 
$$\begin{array}{r} 7 \\ -5\frac{1}{6} \\ \hline \end{array}$$
41.  $27 + \underline{\quad? \quad} = 192$
42. List four numbers which are multiples of 7.
43. Find the mean (average) of 17, 19, and 53.
44. Write 175% as a decimal.
45. Reduce:  $\frac{63}{81}$
46. Evaluate  $10xy$  if  $x = \frac{2}{3}$  and  $y = \frac{3}{4}$
47. A triangle has a base of length  $b$  and a height  $h$ . Use  $b$  and  $h$  to express the area of the triangle.
48. Simplify:  $9m - 3m$
49. If  $r = 5$  and  $s = 8$ , what is the value of  $r^2 - 2s$ ?