ACES Math: Algebra I - Placement Test

In 40 minutes, please try to work out as many problems as possible. This test is only used to help us place you in the right class that fits the level of your mathematical maturity.

Calculators are NOT allowed in this test. Cheating sheets are NOT allowed either. For each problem in the test, please try to write down every major step of your reasoning/calculation. Please try to keep your exam clean.

Problem 1. Find the greatest common factor of 6 and 22. Your answer: _____ .

Problem 2. Find the least common multiple of 8 and 12. Your answer: _____ .

Problem 3. Work out the following problems that involve mixed numbers.

$(a)\ 3\dfrac{1}{2} - 2\dfrac{1}{3} =$ _____ $(b)\ 2\dfrac{2}{3} + 1\dfrac{2}{5} =$ _____ $(c)\ 2\dfrac{2}{7} \div 3\dfrac{3}{4} =$ _____

Problem 4. Write 0.35 as a reduced fraction. Your answer: _____ .

Problem 5. Work out the addition problem: $4.65 + 3.27 + 8.14 =$ _____ .

Problem 6. Solve the one-varialbe algebraic equation: $x + 4.3 = 11.1.$ $x =$ _____ .

Problem 7. What percent of 20 is 1? Your answer: _____ .

Problem 8. Work out the problem: $(-9)^2 =$ _____ .

Problem 9. Evaluate $a - b + c$ for $a = -9$, $b = -2$, and $c = -6$. Your answer: _____ .

Problem 10. Evaluate $\dfrac{y}{2x} - z$ for $x = 2$, $y = 12$, and $z = 3$. Your answer: _____ .

Problem 11. Use appropriate algebraic properties of numbers to remove the parentheses in the expression: $-4(x + 2)$. Your answer: _____ .

Problem 12. Find the volume of a cube with 4 inches on each side. Your answer: _____ .

Problem 13. Round 4.156 liters to the nearest tenth of a liter. Your answer: _____ .