

Algebra I Team Question 1 March 14, 1992

Evaluate  $-2^2 + 10 \cdot 2^{-3} + (-1)^{50} + 4^0$

Algebra I Team Question 2 March 14, 1992

Find the sum of all  $x$  that solve  $|5 - 3x| = 14$

Algebra I Team Question 3 March 14, 1992

Find the sum of the slopes of the three lines: line AB, line AC, and line BC, given the  $(x,y)$  coordinates of the three points A, B, and C are:

A (0, -3) B (2, -1) C (-2, 3)

Algebra I Team Question 4 March 14, 1992

Simplify:

$$\left( \frac{18xy^{-3}z^{-2}}{24x^{-5}yz} \right)^3$$

Algebra I Team Question 5 March 14, 1992

Simplify  $\sqrt{2}(\sqrt{8} + 4)(\sqrt{2} - 1)$

Algebra I Team Question 6 March 14, 1992

Find the sum of the solutions  $x + y + z$  for the equations:

$$2(1 - 3x) = 4x - 2(x + 1)$$

$$-4(2y + 1) = 7 + 2y - (2y + 1)$$

$$7z - 5 = 4(1 - 3z) + z$$

Algebra I Team Question 7 March 14, 1992

Evaluate the following expression if  $a = 10$  and  $b = 1$

$$\frac{(a^2 + 2ab + b^2)(a^2 - 2ab + b^2)}{(a^2 - b^2)}$$

Algebra I Team Question 8 March 14, 1992

Solve for  $x$ :

$$(2x - 3)(4x + 1) + (x + 3)(2x - 1) = (2x + 3)(3x - 2) + (2x + 1)(2x - 4)$$

Algebra I Team Question 9 March 14, 1992

Find the sum  $A + B + C$

A = the product of the prime factors of 2310

B = the least common multiple (LCM) of 12 and 100

C = the greatest common factor (GCF) of 120 and 126

Algebra I Team Question 10 March 14, 1992

Cecile has \$12.30 in nickels, dimes, and quarters. She has twice as many quarters as nickels, and 6 fewer nickels than dimes. Find the total number of coins she has.

Algebra I Team Question 11 March 14, 1992

Find the sum of the  $x$  and  $y$  coordinates ( $x + y$ ) of the point of intersection of the two lines  $L_1$  and  $L_2$  described below.

$L_1$  has slope 3 and passes through the point  $(4, -1)$ .

$L_2$  has slope  $-1$  and  $y$ -intercept 5.

Algebra I Team Question 12 March 14, 1992

Find the product of all integer solutions of the inequality  $|5 - 2x| < 8$

Algebra I Team Question 13 March 14, 1992

Find the product of all numbers that satisfy the following:

7 less than the square of twice the number is 5 more than twice the number.

Algebra I Team Question 14 March 14, 1992

Factor completely:  $8x^3 + 6x^2 - 8x - 6$

Algebra I Team Question 15 March 14, 1992

Find the sum  $x + y$  where  $(x, y)$  is the solution of the system of equations:

$$2x - 3/y = 1$$

$$3x + 6/y = 5$$