

A and G 1. Class work 22.

Algebra.



Today is our very first virtual class. We are not going to have a new material today, but rather will try to solve more problems from different topics we learned this year.

1. Evaluate:

a. $\sqrt{2 + \sqrt{3}} \cdot \sqrt{2 - \sqrt{3}};$

b. $\sqrt{4 - \sqrt{7}} \cdot \sqrt{4 + \sqrt{7}};$

c. $\frac{\sqrt{\sqrt{30} - \sqrt{5}}}{5} \cdot \frac{\sqrt{\sqrt{30} + \sqrt{5}}}{5};$

d. $\frac{\sqrt{\sqrt{3} + \sqrt{15}}}{2} \cdot \frac{\sqrt{\sqrt{15} - \sqrt{3}}}{3};$

2. Solve the system of equations;

a.
$$\begin{cases} 2x + 2y = x - 1 \\ 3y - x = 4 - y \end{cases}$$

a.
$$\begin{cases} 4x + y = 2y - 4 \\ 3x + y = x + 1 \end{cases}$$

3. Evaluate:

a. $(2.75)^9 \cdot \left(\frac{4}{11}\right)^9;$

b. $\frac{3^5 \cdot 27}{9^3}$

4. Simplify

a. $a(a - b)(a + b) + (a - b)(a^2 + ab + b^2) - b^2(a - b)$

a. $\frac{2x^3y}{6x^2y^2};$

b. $\frac{a^3 - 27b^3}{2a^2 + 6ab + 18b^2};$

c. $\frac{3x^2 - 6x}{4 - 2x}$

d. $\frac{2^{2n+1}}{4^{n+1}};$

e. $\frac{16 - x^2}{16 + 8x + x^2}$