

Homework 13.



1. Solve the equations:

a. $-(x + 15.4) = -5.4 + (3.7 - 2x)$; b. $x + 12.3 - 5(x - 5.9) = 8.6$

2. Simplify the expressions:

a. $(a + 1)^2 - 2(a + 1) + 1$; b. $(m - n)^2 + 2n(m - n) + n^2$

3. Represent as a polynomial:

Example:

$$\begin{aligned}(x - y - z)(x + y + z) &= x \cdot x + x \cdot y + x \cdot z - y \cdot x - y \cdot y - y \cdot z - z \cdot x - z \cdot y - z \cdot z \\&= x^2 + xy + xz - yx - y^2 - yz - zx - zy - z^2 \\&= x^2 - y^2 - z^2 + xy - xy + xz - xz - yz - zy = x^2 - y^2 - z^2 - yz - zy \\&= x^2 - y^2 - z^2 - 2yz\end{aligned}$$

a. $(x + y + z)(x + y - z)$;

b. $(x - y + z)(x + y + z)$;

c. $(-x - y - z)(x - y - z)$;

d. $(a + x)(a - x)$;

4. Find the principal square root:

Example: $\sqrt{9} = 3$.

$$\sqrt{4}; \sqrt{1}; \sqrt{81}; \sqrt{144}; \sqrt{0.49}; \sqrt{0.04}; \sqrt{\frac{1}{9}}; \sqrt{\frac{1}{81}};$$

5. Find the square roots:

Example:

1. $(x)^2 = 4$; $x = 2, -2$

2. $(x)^2 = 5$; $x = \sqrt{5}, -\sqrt{5}$

$$(y)^2 = 81; \quad (x)^2 = 7$$