

Homework 12.



1. Write the square of a sum as a polynomial:

a. $\left(\frac{1}{2} + a\right)^2$ b. $(1.1 + p)^2$ c. $\left(\frac{3}{5}ab + \frac{1}{2}c^2\right)^2$

2. Evaluate using the sum of the square:

Example:

$$41^2 = (40 + 1)^2 = 40^2 + 2 \cdot 40 \cdot 1 + 1^2 = 1600 + 80 + 1 = 1681$$

a. 91^2 ; b. 72^2 ; c. 302^2

3. Represent polynomial as a square of a sum $(a + b)^2 = a^2 + 2ab + b^2$:

Example:

$$9m^2 + 6mn + n^2 = 3^2m^2 + 2 \cdot 3mn + n^2 = (3m)^2 + 2 \cdot (3m) \cdot n + n^2 = (3m + n)^2$$

a. $x^2 + 2xy + y^2$; b. $a^2 + 4ab + 4b^2$; c. $9 + 6a + a^2$

d. $x^2 + 2x + 1$; e. $4m^2 + 9n^2 + 12mn$; f. $a^6 + 2a^3b^3 + b^6$

4. There are two numbers, the first number is 7 less than the second. If the first number is increased 2 times, and the second number is increased by 6, then their sum will be 31. What are the numbers?

5. Solve the equations:

a. $-(a + 4) - 19 = 7$; b. $2\frac{1}{3} - \left(y - \frac{5}{12}\right) = 1.75$

6. Evaluate:

$$\frac{10.2: \left(18.5 - \left(5 \frac{2}{3} \cdot 1.75 - 3 \frac{2}{3} \cdot 1.75 \right) : 2 \frac{1}{3} \right)}{80.64: 1.6 - 3.4: \frac{1}{6}}$$

Answer is 0.02.