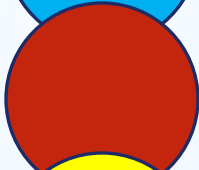
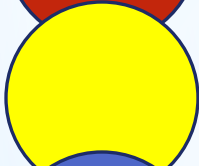


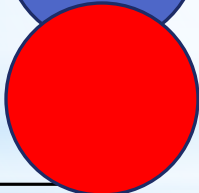
Вычислите:

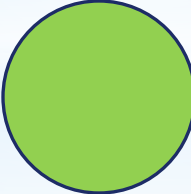
$$\sqrt{25} =$$

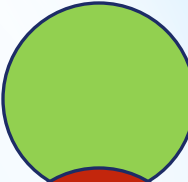

$$\sqrt{0,01} =$$


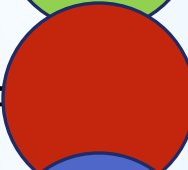
$$\sqrt{4} + 3 =$$


$$\sqrt{-36} =$$
 – пустое множество

$$\sqrt{0} =$$


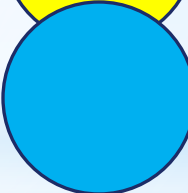
$$\sqrt{81} + \sqrt{121} - \sqrt{144} =$$


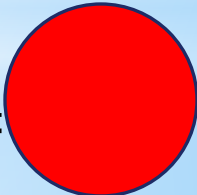
$$\sqrt{121} =$$


$$10 - \sqrt{81} =$$


$$\sqrt{11+5} =$$


$$\sqrt{-1} =$$


$$-\sqrt{49} =$$


$$\sqrt{0,25} - \sqrt{0,0049} =$$


02.11.2020

Свойства арифметического квадратного корня

Если $a \geq 0$; $b \geq 0$, то

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

Например:

$$1) \sqrt{81 \cdot 9} = \sqrt{81} \cdot \sqrt{9} = 9 \cdot 3 = 27$$

$$2) \sqrt{2} \cdot \sqrt{8} = \sqrt{16} = 4$$

Если $a \geq 0$, $b > 0$, то

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

$$\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}}$$

Например:

$$1) \sqrt{\frac{36}{169}} = \frac{\sqrt{36}}{\sqrt{169}} = \frac{6}{13}$$

$$2) \frac{\sqrt{80}}{\sqrt{5}} = \sqrt{\frac{80}{5}} = \sqrt{16} = 4$$

$$3) \sqrt{10 \frac{9}{16}} = \sqrt{\frac{169}{16}} = \frac{13}{4}$$

$$4) \sqrt{37^2 - 12^2} = \sqrt{(37-12)(37+12)} = \sqrt{25 \cdot 49} = \\ = 5 \cdot 7 = 35$$

Если $a \geq 0$; $n \in \mathbb{N}$, то

$$\sqrt[n]{a^n} = |a| = \begin{cases} -a, & \text{если } a < 0 \\ a, & \text{если } a \geq 0 \end{cases}$$

$$1) \sqrt{5^2} = |5| = 5$$

$$2) \sqrt{(-6)^2} = |-6| = 6$$

$$3) \sqrt[n]{a^{2n}} = \sqrt[n]{(a^n)^2} = |a^n| = \begin{cases} -a^n, & \text{если } a < 0 \\ a^n, & \text{если } a \geq 0 \end{cases}$$

$$\sqrt{7056} = \sqrt{2^4 \cdot 3^2 \cdot 7^2} = 2^2 \cdot 3 \cdot 7 = 84$$

7056	2
3528	2
1764	2
882	2
441	3
147	3
49	7
7	7
1	

$$\begin{aligned}\sqrt{(\sqrt{7} - 12)^2} + \sqrt{7} &= |\sqrt{7} - 12| + \sqrt{7} = \\ &= 12 - \sqrt{7} + \sqrt{7} = 12\end{aligned}$$

Свойства:

$$1. \sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$2. \sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}, b \neq 0$$

$$3. \sqrt{0} = 0, \sqrt{1} = 1$$

$$4. \sqrt{a^2} = |a|$$

$$(\sqrt{a})^2 = a$$

Вычислите

$$\sqrt{61^2 - 60^2} =$$

$$\left(\sqrt{18} + \sqrt{2}\right)^2 = \sqrt{18}^2 + 2\sqrt{18} \cdot \sqrt{2} + \sqrt{2}^2 = 18 + 2\sqrt{18 \cdot 2} + 2$$

$$\sqrt{5 \cdot 6 \cdot 10 \cdot 3} =$$

30

11

40

32

Работа в классе

№145(а,в,д,ж), №151(а,в,д,ж)

Домашнее задание

*п.3.3, свойства учить, №151(б,г,е,з),
выполнить задание на портале*

ЯКласс:

*[https://www.yaclass.ru/TestWork/Join/
H55CNWmeOUejZIFCoDsQAq](https://www.yaclass.ru/TestWork/Join/H55CNWmeOUejZIFCoDsQAq)*