

**** MLADEN SRAGA ****

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ZBIRKA POTPUNO RIJEŠENIH ZADATAKA

PRIRUČNIK ZA SAMOSTALNO UČENJE

MATEMATIKA

8

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 $\sqrt{\alpha}$

1. Koristimo pravilo koje kaže da je: $a^2 = a \cdot a$ i $(-a)^2 = a^2$

1) $3^2 = 3 \cdot 3 = 9$

$$\begin{array}{c} \downarrow \quad \uparrow \quad \uparrow \\ a^2 = a \cdot a \end{array}$$

2) $4^2 = 4 \cdot 4 = 16$

3) $5^2 = 5 \cdot 5 = 25$

4) $7^2 = 7 \cdot 7 = 49$

5) $11^2 = 11 \cdot 11 = 121$

6) $12^2 = 12 \cdot 12 = 144$

7) $14^2 = 14 \cdot 14 = 196$

8) $15^2 = 15 \cdot 15 = 225$

9) $20^2 = 20 \cdot 20 = 400$

10) $21^2 = 21 \cdot 21 = 441$

11) $22^2 = 22 \cdot 22 = 484$

12) $25^2 = 25 \cdot 25 = 625$

13) $-5^2 = -1 \cdot 5^2 = -1 \cdot 5 \cdot 5 = -1 \cdot 25 = -25$

Objašnjenje svaki negativan broj $(-n^2)$ da se zapisati u obliku $(-1 \cdot n^2)$

Dakle: $-n^2 = (-1) \cdot n^2$ gdje je sada n -pozitivan broj, a njega znamo kvadrirati

Pa u ovom zadatku imamo: $-5^2 = -1 \cdot 5^2 = -1 \cdot 5 \cdot 5 = -1 \cdot 25 = -25$

$$\begin{array}{ccc} \downarrow & & \downarrow \\ -n^2 = -1 \cdot n^2 & , & \text{u ovom zadatku: } n^2 = 5^2 \end{array}$$

14) $-10^2 = -1 \cdot 10^2 = -1 \cdot 10 \cdot 10 = -1 \cdot 100 = -100$

15) $-20^2 = -1 \cdot 20^2 = -1 \cdot 20 \cdot 20 = -1 \cdot 400 = -400$

16) $-25^2 = -1 \cdot 25^2 = -1 \cdot 25 \cdot 25 = -1 \cdot 625 = -625$

17) $(-5)^2 = (-5) \cdot (-5) = +25 = 25$

II način po pravilu: $\boxed{(-a)^2 = a^2}$ $(-5)^2 = 5^2 = 25$ vidi 2. zadatak

III način: $(-5)^2 = (-1 \cdot 5)^2 = (-1)^2 \cdot 5^2 = +1 \cdot 5 \cdot 5 = 25$

više o *III* načinu u poglavlju potncije.

18) $(-10)^2 = (-10) \cdot (-10) = +10 \cdot 10 = 100$

II način $(-10)^2 = 10^2 = 10 \cdot 10 = 100$

III način $(-10)^2 = (-1 \cdot 10)^2 = ((-1) \cdot 10)^2 = (-1)^2 \cdot 10^2 = (-1) \cdot (-1) \cdot 10 \cdot 10 = 100$

2. Koristimo pravila: I način: $a^2 = a \cdot a$, $(-)\cdot(-) = +$ ili II način: $(-a)^2 = a^2$

I način:

$$a^2 = a \cdot a \quad \text{u ovom zadatku: } a = (-1)$$

$$\begin{array}{ccc} \uparrow & \downarrow & \downarrow \\ a^2 & = & a \cdot a \end{array}$$

$$1) \quad (-1)^2 = \underbrace{(-1) \cdot (-1)}_{(-)\cdot(-)=+} = +1 = 1 \quad \text{ili duže} \quad (-1)^2 = \underbrace{(-1) \cdot (-1)}_{(-)\cdot(-)=+} = +1 \cdot 1 = 1$$

II način po pravilu: $(-a)^2 = a^2 \rightarrow$ suprotni brojevi imaju jednake kvadrate

$$(-1)^2 = 1^1 = 1 \cdot 1 = 1$$

I način:

$$a^2 = a \cdot a \quad \text{u ovom zadatku: } a = (-2)$$

$$\begin{array}{ccc} \uparrow & \downarrow & \downarrow \\ a^2 & = & a \cdot a \end{array}$$

$$2) \quad (-2)^2 = \underbrace{(-2) \cdot (-2)}_{(-)\cdot(-)=+} = 4 \quad \text{ili duže} \quad (-2)^2 = \underbrace{(-2) \cdot (-2)}_{(-)\cdot(-)=+} = +2 \cdot 2 = 4$$

II način po pravilu: $(-a)^2 = a^2$

$$(-2)^2 = 2^2 = 2 \cdot 2 = 4$$

I način:

$$3) \quad (-3)^2 = \underbrace{(-3) \cdot (-3)}_{(-)\cdot(-)=+} = +9 = 9 \quad \text{ili duže} \quad (-3)^2 = \underbrace{(-3) \cdot (-3)}_{(-)\cdot(-)=+} = +3 \cdot 3 = 9$$

II način po pravilu: $(-a)^2 = a^2$

$$(-3)^2 = 3^2 = 3 \cdot 3 = 9$$

po pravilu:

$$a^2 = a \cdot a$$

$$\begin{array}{ccc} \uparrow & \downarrow & \downarrow \\ a^2 & = & a \cdot a \end{array}$$

$$4) \quad (-5)^2 = \underbrace{(-5) \cdot (-5)}_{(-)\cdot(-)=+} = +5 \cdot 5 = 25$$

II način po pravilu: $(-a)^2 = a^2$

$$(-5)^2 = 5^2 = 5 \cdot 5 = 25$$

2. Koristimo pravila: I način: $a^2 = a \cdot a$, $(-)\cdot(-) = +$ ili II način: $(-a)^2 = a^2$

I način po pravilu:

$$\begin{array}{c} a^2 = a \cdot a \\ \uparrow \quad \downarrow \quad \downarrow \end{array}$$

$$5) (-11)^2 = \underbrace{(-11) \cdot (-11)}_{(-)\cdot(-)=+} = +11 \cdot 11 = 121$$

II način po pravilu: $(-a)^2 = a^2$

$$(-11)^2 = 11^2 = 11 \cdot 11 = 121$$

$$6) (-13)^2 = \underbrace{(-13) \cdot (-13)}_{(-)\cdot(-)=+} = +13 \cdot 13 = 169$$

II način po pravilu: $(-a)^2 = a^2$

$$(-13)^2 = 13^2 = 13 \cdot 13 = 169$$

$$7) (-15)^2 = (-15) \cdot (-15) = +15 \cdot 15 = 225$$

II način po pravilu: $(-a)^2 = a^2$

$$(-15)^2 = 15^2 = 15 \cdot 15 = 225$$

$$8) (-17)^2 = (-17) \cdot (-17) = +17 \cdot 17 = 289$$

II način

$$(-17)^2 = 17^2 = 17 \cdot 17 = 289$$

$$9) (-20)^2 = (-20) \cdot (-20) = +20 \cdot 20 = 400$$

II način

$$(-20)^2 = 20^2 = 20 \cdot 20 = 400$$

$$10) (-22)^2 = (-22) \cdot (-22) = +22 \cdot 22 = 484$$

II način

$$(-22)^2 = 22^2 = 22 \cdot 22 = 484$$

$$11) (-25)^2 = (-25) \cdot (-25) = +25 \cdot 25 = 625$$

II način

$$(-25)^2 = 25^2 = 25 \cdot 25 = 625$$

2. Koristimo pravila: I način: $a^2 = a \cdot a$, $(-)\cdot(-) = +$ ili II način: $(-a)^2 = a^2$

$$12) (-30)^2 = (-30) \cdot (-30) = +30 \cdot 30 = 900$$

II način

$$(-30)^2 = 30^2 = 30 \cdot 30 = 900$$

$$\text{po pravilu: } a^2 = a \cdot a \quad \text{dakle: } (-1)^2 = (-1) \cdot (-1)$$

$$\quad \quad \quad \uparrow \quad \quad \downarrow \quad \downarrow$$

$$13) -(-1)^2 = -((-1)^2) = -((-1) \cdot (-1)) = -(+1) = -1$$

$$\text{II način } -(-1)^2 = -1 \cdot (-1)^2 = -1 \cdot 1^2 = -1 \cdot 1 = -1$$

$$14) -(-5)^2 = -((-5)^2) = -((-5) \cdot (-5)) = -(+5 \cdot 5) = -(+25) = -25$$

$$\text{II način } -(-5)^2 = -1 \cdot (-5)^2 = -1 \cdot 5^2 = -1 \cdot 5 \cdot 5 = -25$$

$$\downarrow$$

$$\text{po pravilu: } (-a)^2 = a^2$$

$$15) -(-10)^2 = -((-10)^2) = -((-10) \cdot (-10)) = -(+10 \cdot 10) = -(+100) = -100$$

$$\text{ili kraće: } -(-10)^2 = -((-10)^2) = -(+100) = -100$$

$$\text{II način } -(-10)^2 = -1 \cdot (-10)^2 = -1 \cdot 10^2 = -1 \cdot 10 \cdot 10 = -100$$

$$\downarrow$$

$$\text{po pravilu: } (-a)^2 = a^2$$

$$16) -(-18)^2 = -((-18)^2) = -((-18) \cdot (-18)) = -(+18 \cdot 18) = -(+324) = -324$$

$$\text{ili kraće: } -(-18)^2 = -((-18)^2) = -(+324) = -324$$

$$\text{II način } -(-18)^2 = -1 \cdot (-18)^2 = -1 \cdot 18^2 = -1 \cdot 324 = -324$$

$$\downarrow \quad \quad \quad \uparrow$$

$$\text{po pravilu: } (-a)^2 = a^2$$

3. Ovaj zadatak je isti kao 1. samo sada kvadiramo decimalne brojeve, neki pozitivne decimalne brojeve prilikom kvadriranja stavljaju u zagradu a neki ne, ja ću pokazati obadvije varijante vidi 3.A

$$1) (0.3)^2 = 0.3 \cdot 0.3 = 0.09$$

$$(0.3)^2 = \underbrace{0.3 \cdot 0.3}_{\downarrow} = 0.09$$

decimalne brojeve bi trebali znati množiti iz 6 razreda:

$$\begin{array}{r} 0.3 \cdot 0.3 = 0.09 \\ \hline 00 \\ 09 \\ \hline 0,09 \end{array}$$

II način Još jednom isti zadatak s time da decimalni broj pretvorimo u razlomak pa kvadiramo...

$$1) (0.3)^2 = \left(\frac{3}{10}\right)^2 = \frac{3^2}{10^2} = \frac{3 \cdot 3}{10 \cdot 10} = \frac{9}{100} = 9:100 = 0.09$$

$$2) (0.1)^2 = 0.1 \cdot 0.1 = 0.01$$

II način

$$2) (0.1)^2 = \left(\frac{1}{10}\right)^2 = \frac{1^2}{10^2} = \frac{1}{100} = 1:100 = 0.01$$

$$\begin{array}{r} 0.01 \cdot 0.01 = 0.0001 \\ \hline 000 \\ 000 \\ 001 \\ \hline 0.0001 \end{array}$$

$$3) (0.5)^2 = 0.5 \cdot 0.5 = 0.25$$

II način

$$(0.5)^2 = \left(\frac{5}{10}\right)^2 = \frac{5^2}{10^2} = \frac{5 \cdot 5}{10 \cdot 10} = \frac{25}{100} = \frac{25}{25 \cdot 4} = \frac{1}{4} = 1:4 = 0.25$$

$$4) (0.01)^2 = 0.01 \cdot 0.01 = 0.0001$$

II način

$$(0.01)^2 = \left(\frac{1}{100}\right)^2 = \frac{1^2}{100^2} = \frac{1}{100 \cdot 100} = \frac{1}{10000} = 1:10000 = 0.0001$$

$$5) (0.04)^2 = 0.04 \cdot 0.04 = 0.0016$$

II način

$$(0.04)^2 = \left(\frac{4}{100}\right)^2 = \frac{4^2}{100^2} = \frac{4 \cdot 4}{100 \cdot 100} = \frac{16}{10000} = 16:10000 = 0.0016$$

$$6) (0.003)^2 = 0.003 \cdot 0.003 = 0.000009$$

II način

$$(0.003)^2 = \left(\frac{3}{1000}\right)^2 = \frac{3^2}{1000^2} = \frac{9}{1000 \cdot 1000} = \frac{9}{1000000} = 9:1000000 = 0.000009$$

$$3. \quad 7) \quad (1.3)^2 = 1.3 \cdot 1.3 = 1.69$$

II način decimalni broj pretvorimo u decimalni razlomak pa kvadriramo...

$$(1.3)^2 = \left(\frac{13}{10}\right)^2 = \frac{13^2}{10^2} = \frac{13 \cdot 13}{10 \cdot 10} = \frac{169}{100} = 169:100 = 1.69$$

$$8) \quad (2.5)^2 = 2.5 \cdot 2.5 = 6.25$$

II način

$$(2.5)^2 = \left(\frac{25}{10}\right)^2 = \frac{25^2}{10^2} = \frac{25 \cdot 25}{10 \cdot 10} = \frac{625}{100} = 625:100 = 6.25$$

$$9) \quad (1.1)^2 = 1.1 \cdot 1.1 = 1.21$$

$$\text{II način} \quad (1.1)^2 = \left(\frac{11}{10}\right)^2 = \frac{11^2}{10^2} = \frac{11 \cdot 11}{10 \cdot 10} = \frac{121}{100} = 121:100 = 1.21$$

$$10) \quad (0.11)^2 = 0.11 \cdot 0.11 = 0.0121$$

II način

$$(0.11)^2 = \left(\frac{11}{100}\right)^2 = \frac{11^2}{100^2} = \frac{11 \cdot 11}{100 \cdot 100} = \frac{121}{10000} = 121:10000 = 0.0121$$

$$11) \quad (0.009)^2 = 0.009 \cdot 0.009 = 0.000081$$

II način

$$(0.009)^2 = \left(\frac{9}{1000}\right)^2 = \frac{9^2}{1000^2} = \frac{9 \cdot 9}{1000 \cdot 1000} = \frac{81}{1000000} = 81:1000000 = 0.000081$$

$$12) \quad (0.14)^2 = 0.14 \cdot 0.14 = 0.0196$$

II način

$$(0.14)^2 = \left(\frac{14}{100}\right)^2 = \frac{14^2}{100^2} = \frac{14 \cdot 14}{100 \cdot 100} = \frac{196}{10000} = 196:10000 = 0.0196$$

3.

$$13) -(0.2)^2 = -1 \cdot (0.2)^2 = -1 \cdot (0.2 \cdot 0.2) = -1 \cdot (0.04) = -0.04$$

(-1) možemo i ne moramo pisati :

$$\text{još jednom isti zadatak: } -(0.2)^2 = -(0.2^2) = -(0.2 \cdot 0.2) = -(0.04) = -0.04$$

II način decimalni broj pretvorimo u decimalni razlomak pa kvadriramo...

$$-(0.2)^2 = -1 \cdot \left(\frac{2}{10}\right)^2 = -1 \cdot \left(\frac{2^2}{10^2}\right) = -1 \cdot \left(\frac{4}{100}\right) = -1 \cdot (4:100) = -1 \cdot (0.04) = -0.04$$

$$\text{ili } -(0.2)^2 = -\left(\frac{2}{10}\right)^2 = -\left(\frac{2^2}{10^2}\right) = -\left(\frac{4}{100}\right) = -(4:100) = -(0.04) = -0.04$$

$$14) -(1.2)^2 = -(1.2^2) = -(1.2 \cdot 1.2) = -(1.44) = -1.44$$

II način

$$-(1.2)^2 = -\left(\frac{12}{10}\right)^2 = -\left(\frac{12^2}{10^2}\right) = -\left(\frac{144}{100}\right) = -(144:100) = -(1.44) = -1.44$$

$$15) -(0.06)^2 = -(0.06 \cdot 0.06) = -(0.0036) = -0.0036$$

II način

$$-(0.06)^2 = -\left(\frac{6}{100}\right)^2 = -\left(\frac{6^2}{100^2}\right) = -\left(\frac{36}{10000}\right) = -(36:10000) = -0.0036$$

$$16) -(0.13)^2 = -(0.13 \cdot 0.13) = -(0.0169) = -0.0169$$

II način

$$-(0.13)^2 = -\left(\frac{13}{100}\right)^2 = -\left(\frac{13^2}{100^2}\right) = -\left(\frac{169}{10000}\right) = -(169:10000) = -0.0169$$

3.A Ovaj zadatak je isti kao 3. samo sada decimalne brojeve zapisujemo bez zgrade:

$$1) \quad 0.3^2 = 0.3 \cdot 0.3 = 0.09$$

$$0.3^2 = \underbrace{0.3 \cdot 0.3}_{\downarrow} = 0.09$$

decimalne brojeve bi trebali znati množiti iz 6 razreda:

II način Još jednom isti zadatak s time da decimalni broj pretvorimo u razlomak pa kvadriramo...

$$1) \quad 0.3^2 = \left(\frac{3}{10}\right)^2 = \frac{3^2}{10^2} = \frac{3 \cdot 3}{10 \cdot 10} = \frac{9}{100} = 9:100 = 0.09$$

$$2) \quad 0.1^2 = 0.1 \cdot 0.1 = 0.01$$

II način

$$2) \quad 0.1^2 = \left(\frac{1}{10}\right)^2 = \frac{1^2}{10^2} = \frac{1}{100} = 1:100 = 0.01$$

$$3) \quad 0.5^2 = 0.5 \cdot 0.5 = 0.25$$

II način

$$0.5^2 = \left(\frac{5}{10}\right)^2 = \frac{5^2}{10^2} = \frac{5 \cdot 5}{10 \cdot 10} = \frac{25}{100} = \frac{25}{25 \cdot 4} = \frac{1}{4} = 1:4 = 0.25$$

$$4) \quad 0.01^2 = 0.01 \cdot 0.01 = 0.0001$$

II način

$$0.01^2 = \left(\frac{1}{100}\right)^2 = \frac{1^2}{100^2} = \frac{1}{100 \cdot 100} = \frac{1}{10000} = 1:10000 = 0.0001$$

$$5) \quad 0.04^2 = 0.04 \cdot 0.04 = 0.0016$$

II način

$$0.04^2 = \left(\frac{4}{100}\right)^2 = \frac{4^2}{100^2} = \frac{4 \cdot 4}{100 \cdot 100} = \frac{16}{10000} = 16:10000 = 0.0016$$

$$6) \quad 0.003^2 = 0.003 \cdot 0.003 = 0.000009$$

II način

$$0.003^2 = \left(\frac{3}{1000}\right)^2 = \frac{3^2}{1000^2} = \frac{9}{1000 \cdot 1000} = \frac{9}{1000000} = 9:1000000 = 0.000009$$

$$3.A \quad 7) \quad 1.3^2 = 1.3 \cdot 1.3 = 1.69$$

II način decimalni broj pretvorimo u decimalni razlomak pa kvadiramo...

$$1.3^2 = \left(\frac{13}{10}\right)^2 = \frac{13^2}{10^2} = \frac{13 \cdot 13}{10 \cdot 10} = \frac{169}{100} = 169:100 = 1.69$$

$$8) \quad 2.5^2 = 2.5 \cdot 2.5 = 6.25$$

II način

$$2.5^2 = \left(\frac{25}{10}\right)^2 = \frac{25^2}{10^2} = \frac{25 \cdot 25}{10 \cdot 10} = \frac{625}{100} = 625:100 = 6.25$$

$$9) \quad 1.1^2 = 1.1 \cdot 1.1 = 1.21$$

$$\text{II način} \quad 1.1^2 = \left(\frac{11}{10}\right)^2 = \frac{11^2}{10^2} = \frac{11 \cdot 11}{10 \cdot 10} = \frac{121}{100} = 121:100 = 1.21$$

$$10) \quad 0.11^2 = 0.11 \cdot 0.11 = 0.0121$$

II način

$$0.11^2 = \left(\frac{11}{100}\right)^2 = \frac{11^2}{100^2} = \frac{11 \cdot 11}{100 \cdot 100} = \frac{121}{10000} = 121:10000 = 0.0121$$

$$11) \quad 0.009^2 = 0.009 \cdot 0.009 = 0.000081$$

$$0.009^2 = \left(\frac{9}{1000}\right)^2 = \frac{9^2}{1000^2} = \frac{9 \cdot 9}{1000 \cdot 1000} = \frac{81}{1000000} = 81:1000000 = 0.000081$$

$$12) \quad 0.14^2 = 0.14 \cdot 0.14 = 0.0196$$

$$0.14^2 = \left(\frac{14}{100}\right)^2 = \frac{14^2}{100^2} = \frac{14 \cdot 14}{100 \cdot 100} = \frac{196}{10000} = 196:10000 = 0.0196$$

$$13) \quad -0.2^2 = -1 \cdot 0.2^2 = -1 \cdot 0.2 \cdot 0.2 = -1 \cdot 0.04 = -0.04$$

II način

$$-0.2^2 = -1 \cdot \left(\frac{2}{10}\right)^2 = -1 \cdot \left(\frac{2^2}{10^2}\right) = -1 \cdot \left(\frac{4}{100}\right) = -1 \cdot (4:100) = -1 \cdot (0.04) = -0.04$$

$$\text{ili} \quad -0.2^2 = -\left(\frac{2}{10}\right)^2 = -\left(\frac{2^2}{10^2}\right) = -\left(\frac{4}{100}\right) = -(4:100) = -(0.04) = -0.04$$

3.A

$$14) -1.2^2 = -1 \cdot 1.2^2 = -1 \cdot 1.2 \cdot 1.2 = -1 \cdot 1.44 = -1.44$$

II način decimalni broj pretvorimo u decimalni razlomak pa kvadiramo...

$$-1.2^2 = -1 \cdot 1.2^2 = -1 \cdot \left(\frac{12}{10}\right)^2 = -\left(\frac{12^2}{10^2}\right) = -\left(\frac{144}{100}\right) = -(144:100) = -(1.44) = -1.44$$

$$15) -0.06^2 = -1 \cdot 0.06^2 = -1 \cdot 0.06 \cdot 0.06 = -1 \cdot 0.0036 = -0.0036$$

II način

$$-0.06^2 = -1 \cdot 0.06^2 = -1 \cdot \left(\frac{6}{100}\right)^2 = -\left(\frac{6^2}{100^2}\right) = -\left(\frac{36}{10000}\right) = -(36:10000) = -0.0036$$

$$16) -0.13^2 = -1 \cdot 0.13^2 = -1 \cdot 0.13 \cdot 0.13 = -1 \cdot 0.0169 = -0.0169$$

II način

$$\begin{aligned} -0.13^2 &= -1 \cdot 0.13^2 = -1 \cdot \left(\frac{13}{100}\right)^2 = -1 \cdot \left(\frac{13^2}{100^2}\right) = -1 \cdot \left(\frac{169}{10000}\right) = \\ &= -1 \cdot (169:10000) = -1 \cdot 0.0169 = -0.0169 \end{aligned}$$

4. Koristimo sve što smo naučili u prva tri zadatka:

I način po pravilu:

$$\begin{array}{ccc} a^2 & = & a \cdot a \\ \uparrow & & \downarrow \quad \downarrow \end{array}$$

$$1) (-0.1)^2 = (-0.1) \cdot (-0.1) = +0.1 \cdot 0.1 = 0.01$$

II način po pravilu: $(-a)^2 = a^2$

$$(-0.1)^2 = 0.1^2 = 0.1 \cdot 0.1 = 0.01$$

III način decimalni broj pretvorimo u decimalni razlomak....

$$(-0.1)^2 = 0.1^2 = \left(\frac{1}{10}\right)^2 = \frac{1^2}{10^2} = \frac{1}{100} = 1:100 = 0.01$$

$$2) (-0.2)^2 = (-0.2) \cdot (-0.2) = +0.2 \cdot 0.2 = 0.04$$

II način po pravilu: $(-a)^2 = a^2$

$$(-0.2)^2 = 0.2^2 = 0.2 \cdot 0.2 = 0.04$$

III način decimalni broj pretvorimo u decimalni razlomak....

$$(-0.2)^2 = 0.2^2 = \left(\frac{2}{10}\right)^2 = \frac{2^2}{10^2} = \frac{4}{100} = 4:100 = 0.04$$

$$3) (-2.1)^2 = (-2.1) \cdot (-2.1) = +2.1 \cdot 2.1 = 4.41$$

II način po pravilu: $(-a)^2 = a^2$

$$(-2.1)^2 = 2.1^2 = 2.1 \cdot 2.1 = 4.41$$

III način decimalni broj pretvorimo u decimalni razlomak....

$$(-2.1)^2 = 2.1^2 = \left(\frac{21}{10}\right)^2 = \frac{21^2}{10^2} = \frac{441}{100} = 441:100 = 4.41$$

$$4) (-0.04)^2 = (-0.04) \cdot (-0.04) = +0.04 \cdot 0.04 = 0.0016$$

II način po pravilu: $(-a)^2 = a^2$

$$(-0.04)^2 = 0.04^2 = 0.04 \cdot 0.04 = 0.0016$$

III način decimalni broj pretvorimo u decimalni razlomak....

$$(-0.04)^2 = 0.04^2 = \left(\frac{4}{100}\right)^2 = \frac{4^2}{100^2} = \frac{16}{10000} = 16:10000 = 0.0016$$

4. Koristimo sve što smo naučili u prva tri zadatka:

$$5) (-2.5)^2 = (-2.5) \cdot (-2.5) = +2.5 \cdot 2.5 = 6.25$$

II način po pravilu: $(-a)^2 = a^2$

$$(-2.5)^2 = 2.5^2 = 2.5 \cdot 2.5 = 6.25$$

III način decimalni broj pretvorimo u decimalni razlomak....

$$(-2.5)^2 = 2.5^2 = \left(\frac{25}{10}\right)^2 = \frac{25^2}{10^2} = \frac{625}{100} = 625:100 = 6.25$$

$$6) (-0.001)^2 = (-0.001) \cdot (-0.001) = +0.001 \cdot 0.0001 = 0.000001$$

II način: $(-0.001)^2 = 0.001^2 = 0.001 \cdot 0.0001 = 0.000001$

III način

$$(-0.001)^2 = 0.001^2 = \left(\frac{1}{1000}\right)^2 = \frac{1^2}{1000^2} = \frac{1}{1000000} = 1:1000000 = 0.000001$$

$$7) (-0.012)^2 = (-0.012) \cdot (-0.012) = +0.012 \cdot 0.012 = 0.000144$$

II način: $(-0.012)^2 = 0.012^2 = 0.012 \cdot 0.012 = 0.000144$

III način

$$(-0.012)^2 = 0.012^2 = \left(\frac{12}{1000}\right)^2 = \frac{12^2}{1000^2} = \frac{144}{1000000} = 144:1000000 = 0.000144$$

$$8) (-0.025)^2 = (-0.025) \cdot (-0.025) = +0.025 \cdot 0.025 = 0.000625$$

II način: $(-0.025)^2 = 0.025^2 = 0.025 \cdot 0.025 = 0.000625$

III način

$$(-0.025)^2 = 0.025^2 = \left(\frac{25}{1000}\right)^2 = \frac{25^2}{1000^2} = \frac{625}{1000000} = 625:1000000 = 0.000625$$

$$9) -(-0.3)^2 = -(0.3^2) = -(0.3 \cdot 0.3) = -(0.09) = -0.09$$

↓ u ovom tipu zadataka raditi ćemo samo po

II načinu po pravilu: $(-a)^2 = a^2$ u ovom zadatku:

$$-(-0.3)^2 = -\left((0.3^2)\right) = -(0.3 \cdot 0.3) = -(0.09) = -0.09$$

minus ispred zagrade ostaje do zadnjeg koraka kada konačnom rješenju daje negativan predznak

ili minus ispred zagrade možemo pisati i kao: $(-1) \cdot (\text{zagrada})$

$$-(-0.3)^2 = -1 \cdot (-0.3)^2 = -1 \cdot \left((0.3^2)\right) = -1 \cdot (0.3 \cdot 0.3) = -1 \cdot 0.09 = -0.09$$

4. Koristimo sve što smo naučili u prva tri zadatka:

$$10) \quad -(-0.5)^2 = -(0.5^2) = -(0.5 \cdot 0.5) = -(0.25) = -0.25$$

↓ u ovom tipu zadataka raditi ćemo samo po

II načinu po pravilu: $(-a)^2 = a^2$ u ovom zadatku:

$$-(-0.5)^2 = -((0.5^2)) = -(0.5 \cdot 0.5) = -(0.25) = -0.25$$

minus ispred zagrade ostaje do zadnjeg koraka kada konačnom rješenju daje negativan predznak

ili minus ispred zagrade možemo pisati i kao: $(-1) \cdot (\text{zagrada})$

$$-(-0.5)^2 = -1 \cdot (-0.5)^2 = -1 \cdot ((0.5^2)) = -1 \cdot (0.5 \cdot 0.5) = -1 \cdot 0.25 = -0.25$$

$$11) \quad -(-0.04)^2 = -(0.04^2) = -(0.04 \cdot 0.04) = -(0.0016) = -0.0016$$

ili nešto kraći postupak: $-(-0.04)^2 = -(0.04^2) = -0.0016$

drugi i treći korak napravili smo "u glavi"

$$\text{ili} \quad -(-0.04)^2 = -1 \cdot (-0.04)^2 = -1 \cdot (0.04^2) = -1 \cdot (0.04 \cdot 0.04) = -1 \cdot 0.0016 = -0.0016$$

$$12) \quad -(-0.12)^2 = -(0.12^2) = -(0.12 \cdot 0.12) = -(0.144) = -0.144$$

$$\text{ili} \quad -(-0.12)^2 = -1 \cdot (-0.12)^2 = -1 \cdot (0.12^2) = -1 \cdot (0.12 \cdot 0.12) = -1 \cdot 0.144 = -0.144$$

$$13) \quad -(-1.1)^2 = -(1.1^2) = -(1.1 \cdot 1.1) = -(1.21) = -1.21$$

$$\text{ili} \quad -(-1.1)^2 = -1 \cdot (-1.1)^2 = -1 \cdot (1.1^2) = -1 \cdot (1.1 \cdot 1.1) = -1 \cdot 1.21 = -1.21$$

$$14) \quad -(-2.5)^2 = -(2.5^2) = -(2.5 \cdot 2.5) = -(6.25) = -6.25$$

$$\text{ili} \quad -(-2.5)^2 = -1 \cdot (-2.5)^2 = -1 \cdot (2.5^2) = -1 \cdot (2.5 \cdot 2.5) = -1 \cdot 6.25 = -6.25$$

$$15) \quad -(-1.4)^2 = -(1.4^2) = -(1.4 \cdot 1.4) = -(1.96) = -1.96$$

$$\text{ili} \quad -(-1.4)^2 = -1 \cdot (-1.4)^2 = -1 \cdot (1.4^2) = -1 \cdot (1.4 \cdot 1.4) = -1 \cdot 1.96 = -1.96$$

$$16) \quad -(-0.009)^2 = -(0.009^2) = -(0.009 \cdot 0.009) = -(0.000081) = -0.000081$$

$$\begin{aligned} \text{ili} \quad -(-0.009)^2 &= -1 \cdot (-0.009)^2 = \\ &= -1 \cdot (0.009^2) = -(0.009 \cdot 0.009) = -(0.000081) = -0.000081 \end{aligned}$$

5. Koristimo pravila: I način: $a^2 = a \cdot a$ II način: $\left(\frac{a}{b}\right)^2 = \frac{a^2}{b^2}$

I način:

$$1) \left(\frac{1}{2}\right)^2 = \frac{1}{2} \cdot \frac{1}{2} = \frac{1 \cdot 1}{2 \cdot 2} = \frac{1}{4} \quad \text{ili kraće:} \quad \left(\frac{1}{2}\right)^2 = \frac{1 \cdot 1}{2 \cdot 2} = \frac{1 \cdot 1}{2 \cdot 2} = \frac{1}{4}$$

II način: postoji pravilo koje kaže: $\left(\frac{a}{b}\right)^2 = \frac{a^2}{b^2}$ pa po njemu možemo riješiti ovaj zadatak:

$$\left(\frac{1}{2}\right)^2 = \frac{1^2}{2^2} = \frac{1}{4}$$

$$2) \text{ I način: } \left(\frac{1}{4}\right)^2 = \frac{1}{4} \cdot \frac{1}{4} = \frac{1}{16} \quad \text{II način: } \left(\frac{1}{4}\right)^2 = \frac{1^2}{4^2} = \frac{1}{16}$$

$$3) \text{ I način: } \left(\frac{2}{3}\right)^2 = \frac{2}{3} \cdot \frac{2}{3} = \frac{2 \cdot 2}{3 \cdot 3} = \frac{4}{9} \quad \text{ili kraće: } \left(\frac{2}{3}\right)^2 = \frac{2 \cdot 2}{3 \cdot 3} = \frac{4}{9}$$

II način

$$\left(\frac{2}{3}\right)^2 = \frac{2^2}{3^2} = \frac{4}{9}$$

$$4) \text{ I način: } \left(\frac{4}{5}\right)^2 = \frac{4}{5} \cdot \frac{4}{5} = \frac{16}{25} \quad \text{II način: } \left(\frac{4}{5}\right)^2 = \frac{4^2}{5^2} = \frac{4 \cdot 4}{5 \cdot 5} = \frac{16}{25}$$

$$5) \text{ I način: } \left(\frac{3}{2}\right)^2 = \frac{3}{2} \cdot \frac{3}{2} = \frac{9}{4} \quad \text{rješenje } \frac{9}{4} \text{ možemo zapisati i ovako: } \frac{9}{4} = 2\frac{1}{4}$$

II način

$$\left(\frac{3}{2}\right)^2 = \frac{3^2}{2^2} = \frac{3 \cdot 3}{2 \cdot 2} = \frac{9}{4}$$

$$6) \text{ I način: } \left(\frac{5}{4}\right)^2 = \frac{5}{4} \cdot \frac{5}{4} = \frac{25}{16} \quad \text{II način: } \left(\frac{5}{4}\right)^2 = \frac{5^2}{4^2} = \frac{25}{16}$$

$$7) \left(\frac{9}{7}\right)^2 = \frac{9}{7} \cdot \frac{9}{7} = \frac{81}{49} \quad \text{II način: } \left(\frac{9}{7}\right)^2 = \frac{9^2}{7^2} = \frac{9 \cdot 9}{7 \cdot 7} = \frac{81}{49}$$

$$8) \left(\frac{11}{8}\right)^2 = \frac{11}{8} \cdot \frac{11}{8} = \frac{121}{64} \quad \text{II način: } \left(\frac{11}{8}\right)^2 = \frac{11^2}{8^2} = \frac{11 \cdot 11}{8 \cdot 8} = \frac{121}{64}$$

5. Koristimo pravilo: I način: $a^2 = a \cdot a$ II način: $\left(\frac{a}{b}\right)^2 = \frac{a^2}{b^2}$

$$a^2 = a \cdot a$$

$$9) \left(1\frac{1}{2}\right)^2 = \left(\frac{1 \cdot 2 + 1}{2}\right)^2 = \left(\frac{2+1}{2}\right)^2 = \left(\frac{3}{2}\right)^2 = \frac{3}{2} \cdot \frac{3}{2} = \frac{9}{4}$$

↓

↑

mješoviti prvo pretvorimo u razlomak pa tek tada kvadriramo

II način

$$\left(1\frac{1}{2}\right)^2 = \left(\frac{1 \cdot 2 + 1}{2}\right)^2 = \left(\frac{2+1}{2}\right)^2 = \left(\frac{3}{2}\right)^2 = \frac{3^2}{2^2} = \frac{9}{4}$$

I način

$$10) \left(2\frac{2}{3}\right)^2 = \left(\frac{2 \cdot 3 + 2}{3}\right)^2 = \left(\frac{6+2}{3}\right)^2 = \left(\frac{8}{3}\right)^2 = \frac{8}{3} \cdot \frac{8}{3} = \frac{64}{9}$$

II način

$$\left(2\frac{2}{3}\right)^2 = \left(\frac{2 \cdot 3 + 2}{3}\right)^2 = \left(\frac{6+2}{3}\right)^2 = \left(\frac{8}{3}\right)^2 = \frac{8^2}{3^2} = \frac{64}{9}$$

I način

$$11) \left(3\frac{1}{5}\right)^2 = \left(\frac{3 \cdot 5 + 1}{5}\right)^2 = \left(\frac{15+1}{5}\right)^2 = \left(\frac{16}{5}\right)^2 = \frac{16}{5} \cdot \frac{16}{5} = \frac{256}{25}$$

II način

$$\left(3\frac{1}{5}\right)^2 = \left(\frac{3 \cdot 5 + 1}{5}\right)^2 = \left(\frac{15+1}{5}\right)^2 = \left(\frac{16}{5}\right)^2 = \frac{16^2}{5^2} = \frac{16 \cdot 16}{5 \cdot 5} = \frac{256}{25}$$

I način

$$12) \left(1\frac{5}{6}\right)^2 = \left(\frac{1 \cdot 6 + 5}{6}\right)^2 = \left(\frac{6+5}{6}\right)^2 = \left(\frac{11}{6}\right)^2 = \frac{11}{6} \cdot \frac{11}{6} = \frac{121}{36}$$

II način

$$\left(1\frac{5}{6}\right)^2 = \left(\frac{1 \cdot 6 + 5}{6}\right)^2 = \left(\frac{6+5}{6}\right)^2 = \left(\frac{11}{6}\right)^2 = \frac{11^2}{6^2} = \frac{11 \cdot 11}{6 \cdot 6} = \frac{121}{36}$$