Ponavljanje za ispit: **KVADRIRANJE I POTENCIJE** 8. razred

1. Izračunaj:

a) $0.7^2 =$ b) $(-0.13)^2 =$ c) $-0.9^2 =$ d) $\left(1\frac{5}{7}\right)^2 =$

e) $\left(-1\frac{5}{7}\right)^2 =$ f) $\left(-\frac{8}{11}\right)^2 =$ g) $-\frac{8}{11}^2 =$ h) $-\frac{9}{11^2} =$

2. Izračunaj:

a) $-3^2 - 5^2 =$ b) $(-3-5)^2 =$ c) $0.5^2 + 0.7^2 =$

d) $(0.5+0.7)^2 =$ e) $2.7^2 - 1.7^2 =$ f) $(2.7-1.7)^2 =$

g) $-2^2 - 8^2 + (-4)^2 =$ h) $7^2 - 7 \cdot 2^2 - 2^2 =$ i) $-3^2 : (-3)^2 - 2 \cdot 2^2 =$

3. Izračunaj:

a) $\frac{1}{5} - \frac{1}{5} : \left(\frac{1}{5}\right)^2 =$ b) $\frac{5^2-3^2}{(5-3)^2} =$ c) $\left(-\frac{2}{3}\right)^2 - \frac{2^2}{3} =$

d) $\left(\frac{3}{4} - \frac{5}{6}\right)^2 : \frac{-1^2}{12} =$ e) $\left(-\frac{2}{3}\right)^2 + \frac{3}{4} \cdot \left(\frac{2}{5}\right)^2 =$ f) $\frac{1}{2} + \frac{5^2}{3} \cdot \frac{1}{5} =$

4. Pomnoži:

a) $x \cdot x =$ b) $3x \cdot 2x =$ c) $7a \cdot a =$ d) $3ab \cdot 5b =$

e) $2a\,(a-5) =$ f) $x\,(x-y) =$ g) $-5a\,(a+b-3) =$ h) $a\,(5-4a) =$

i) $(x-5)\,(x+7) =$ j) $(a-b)\,(c-2d) =$ k) $(7-y)\,(x+3) =$ l) $(3a+4)\,(-2b+c) =$

m) $(2x-4y)\,(3x+y) =$ n) $(-4+3y)\,(2-5y) =$ o) $(2a+5b)\,(a-b) =$ p) $(7x-8y)(9x+y) =$

5. Primjeni pravila o kvadriranju umnoška i količnika.

$$\boldsymbol{a^2 \cdot b^2 = (a \cdot b)^2} \qquad \boldsymbol{a^2 : b^2 = (a : b)^2} \qquad \boldsymbol{\frac{a^2}{b^2} = \left(\frac{a}{b}\right)^2}$$

a) $217^2 \cdot \left(\frac{1}{217}\right)^2 =$ b) $\left(\frac{2}{5}\right)^2 \cdot 10^2 =$ c) $\left(\frac{11}{13}\right)^2 \cdot \left(\frac{26}{33}\right)^2 =$ d) $\left(2\frac{1}{5}\right)^2 \cdot \left(\frac{10}{11}\right)^2 =$

e) $0.27^2 : 7^2 =$ f) $\left(2\frac{1}{5}\right)^2 : \left(-1\frac{1}{5}\right)^2 =$ g) $\left(-2\frac{4}{7}\right)^2 : \left(-1\frac{13}{14}\right)^2 =$

h) $\left(\frac{1}{2}\right)^2 \cdot \left(\frac{2}{3}\right)^2 \cdot \left(\frac{3}{4}\right)^2 \cdot \left(\frac{4}{5}\right)^2 =$ i) $\left(1\frac{1}{2}\right)^2 \cdot \left(1\frac{1}{3}\right)^2 \cdot \left(1\frac{1}{4}\right)^2 \cdot \left(1\frac{1}{5}\right)^2 \cdot \left(1\frac{1}{6}\right)^2 =$

6. Kvadriraj:

a) $(x-y)^2 =$ b) $(3a+4b)^2 =$ c) $(6x-7)^2 =$ d) $(0.5+3b)^2 =$

e) $(0.3x-1.2y)^2 =$ f) $(\frac{7}{11}a + \frac{11}{7}b)^2 =$ c) $(5x + \frac{1}{5}y)^2 =$ d) $(0.9 - \frac{1}{9}b)^2 =$

7. Rastavi: (Što treba kvadrirati da se dobije:

a) $s^2 + 4s + 4 =$ b) $t^2 - 2t + 1 =$ c) $36a^2 + 12ab + b^2 =$ d) $25 - 10x + x^2 =$

e) $a^2 + a + \frac{1}{4} =$ f) $\frac{9}{4}x^2 + 6xy + 4y^2 =$ g) $0.01 - 0.1a + 0.25a^2 =$ h) $1.21 - 2.2x + x^2 =$

8. Izračunaj:

a) $(5x - 4y)(5x + 4y) =$ b) $(0.1 + 5a)(0.1 - 5a) =$ c) $(2.5a - 5.2b)(2.5a + 5.2b) =$

d) $(0.5z + 10)(0.5 - 10) =$ e) $(3p - 7r)(3p + 7r) =$ f) $\left(0.2a + \frac{1}{2}b\right)\left(0.2a - \frac{1}{2}b\right) =$

9. Napiši u obliku umnoška:

a) $x^2 - y^2 =$ b) $36 - 4y^2 =$ c) $81a^2 - b^2 =$ d) $x^2 - 49 =$

d) $0.01t^2 - 0.25 =$ e) $\frac{25}{49}a^2 - \frac{49}{25}b^2 =$ f) $r^2 - s^2 =$ g) $\frac{1}{4}x^2 - \frac{1}{9}z^2 =$

10. Izračunaj:

a) $3 + 5x - 6x^2 - 7x + 10x^2 + 11 =$ b) $(5x^2 - x + 1) - (x^2 + x + 1) =$

c) $5(2a^2 - b^2 + 4) - 2(a^2 - b^2 + 3) =$ d) $(5t - 2)^2 - (2t - 5)^2 =$

e) $(3x + 2y)(2x - 3y) + 5xy =$ f) $5x(3 - 4y) + 2y(7 + 10x) =$

g) $(7a + 6b)(7a + 6b) - (7a + 6b)^2 =$ h) $(9 + 3x)^2 - 9x(6 + x) =$

11. Napiši što znači:

a) $x^5 =$ b) $a^4b^4 =$ c) $3a^7 =$ d) $(3a)^7 =$

12. Izračunaj:

a) $5^0 - 5^1 + 5^2 - 5^3 + 5^4 =$ b) $-1^{101} + 1^{202} - 1^{303} + 1^{404} =$ c) $1 + 2 \cdot 3^4 =$

d) $(-4)^3 + (-3)^4 =$ e) $10^2 - 2^{10} =$ f) $-5^3 + (-5)^3 =$

g) $-2^4 + (-2)^4 =$ h) $(-2)^1 + (-2)^2 + (-2)^3 + (-2)^4 =$ i) $5 \cdot (-1)^5 - 6 \cdot (-1)^6 =$

13. Izračunaj:

a) $5^{-1} =$ b) $7^{-2} =$ c) $2^{-4} =$ d) $10^2 + 10^0 + 10^{-2} =$ e) $\left(\frac{8}{11}\right)^{-1} =$

f) $\left(\frac{4}{5}\right)^{-2} =$ g) $\left(\frac{3}{5}\right)^{-3} =$ h) $\left(1\frac{5}{7}\right)^{-2} =$ i) $\left(2\frac{1}{3}\right)^{0} =$ j) $\left(\frac{2}{4}\right)^{-4} =$

14. Napiši kao potenciju sa bazom 10.

a) 1000 = b) 0.1 = c) 1 = d) 0.0001 = e) 10 = f) 1000000 =

15. Izračunaj:

a) $a \cdot a^5 =$ b) $b^7 \cdot b1^0 =$ c) $x \cdot 2x \cdot 3x \cdot 4x =$ d) $7z^5 \cdot 5z^7 =$

e) $a^3b^4 \cdot a^2b^3 =$ f) $2x^5y^3 \cdot 3x^2y^4 =$ g) $x^5 : x^3 =$ h) $35x^3 : 5x^2 =$

i) $x^3y^4z^5 : xyz =$ j) $28a^4 : 7a^2 =$ k) $45z^2 : 9z^3 =$ l) $a : a^3 =$

16. Izračunaj:

a) $(u^2)^3 =$ b) $(2a)^3 =$ c) $(x^3y^4)^2 =$ d) $((t^2)^3)^2 =$

e) $(-3a^5b^7c^9)^4 =$ f) $(-2u^7v^{10})^4 =$

17. Kvadriraj:

a) $(x^5 - y^5)^2 =$ b) $(3a^3 - b^3)^2 =$ c) $(a^2 + a^3)^2 =$

d) $(2x^3y^4 + 1)^2 =$ e) $(t^2 + t)^2 =$ d) $(3x^4 - 4x^3)^2 =$

18. Preračunaj a rješenje napiši u obliku potencije s bazom 10.

a) 100 m = _____ mm b) 1 km = ____ m c) 1000 hPa = ____ Pa d) 1 m = ____ μm

e) 1 t = ____ dag f) 1 km^2 = ____ m^2 g) 10 m^3 = ____ mm^3 h) 10 kV = ____ V