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2. PPZ ALGEBARSKI IZRAZI [14]

1. Napiši primjer monoma, binoma, trinoma i polinoma [2]

$M \rightarrow 4x \,,\, \frac{3}{4}y$ (0,5)

$B \rightarrow 4x + 3y$ (0,5)

$T \rightarrow 4x + 3y + \sqrt{5}$ (0,5)

$P \rightarrow 4x + 3y + \sqrt{5} + 2c$ (0,5)

2.a) $(7a + 3b)^2 =$ (1)

$= 49a^2 + 2 \cdot 7a \cdot 3b + 9b^2$

$= 49a^2 + 42ab + 9b^2$

b) $\left(\frac{2}{3}a^3 + \frac{3}{4}b^4 c\right)^2 =$ (1) [2]

$= \frac{4}{9}a^6 + 2 \cdot \frac{2}{3}a^3 \cdot \frac{3}{4}b^4 c + \frac{9}{16}b^8 c^2$

$= \frac{4}{9}a^6 + a^3 b^4 c + \frac{9}{16}b^8 c^2$

3. Zapiši u obliku kvadrata binoma [2]

a) $\frac{4}{9}a^4 + \frac{9}{16}b^4 - a^2 b^2 =$

$= \frac{4}{9}a^4 - a^2 b^2 + \frac{3}{16}b^4 =$

$= \left(\frac{2}{3}a^2 - \frac{3}{4}b^2\right)^2$ (1)

b) $a^2 + 3a + \frac{9}{4}$

$\left(a + \frac{3}{2}\right)^2$ (1)

4. kubiraj [1]

$(a^2 b^2 - 5)^3 = (a^2 b^2)^3 - 3 \cdot (a^2 b^2)^2 \cdot 5 + 3 \cdot a^2 b^2 \cdot (5)^2 - 5^3$

$= a^6 b^6 - 3 \cdot a^4 b^4 \cdot 5 + 3 \cdot a^2 b^2 \cdot 25 - 125$

$= a^6 b^6 - 15a^4 b^4 + 75a^2 b^2 - 125$ (1)

5. faktoriziraj [4]

a) $33a^4b^3c^2 - 44a^4bc^4 + 55a^3b^2c^4$ ①

    $11a^3bc^2(3ab^2 - 4ac^2 + 5bc^2)$

b) $21a^3b^3 + 35a^3b^3c - 28a^2b^2c^2$ ①

    $7a^2b^2(3ob + 5abc - 4c^2)$

c) $144a^2b^2 - (4a^2 + 9b^2)^2 =$

  $= 144a^2b^2 - (16a^4 + 2 \cdot 4a^2 \cdot 9b^2 + 81b^4)$

  $= 144a^2b^2 - (16a^4 + 72a^2b^2 + 81b^4)$ ②

  $= 144a^2b^2 - 16a^4 - 72a^2b^2 - 81b^4$

  $= 72a^2b^2 - 16a^4 - 81b^4$

6. Izračunaj [2]

a) $\dfrac{a^2 - 4}{2a - 4} = \dfrac{(a+2)(a-2)}{2(a-2)} = \dfrac{a+2}{2}$ ①

b) $\dfrac{4a^2 - 9}{6a - 4a^2} = \dfrac{(2a+3)(2a-3)}{2a(3-2a)} = \dfrac{-(2a+3)(3-2a)}{2a(3-2a)}$

                    $= \dfrac{2a+3}{2a}$ ①

7. Izračunaj koliko je [2]

  $\dfrac{a^3b - ab^3}{a^3b - 2a^2b^2 + ab^3}$, za $a = \dfrac{3}{8}$, $b = -0.4$?

  $\dfrac{ab(a^2 - b^2)}{ab(a^2 - 2ab + b^2)} = \dfrac{a^2 - b^2}{(a-b)^2} = \dfrac{(a-b)(a+b)}{(a-b)^2} = \dfrac{a+b}{a-b}$ ①

  $\dfrac{a+b}{a-b} = \dfrac{\frac{3}{8} + \frac{2}{5}}{\frac{3}{8} - \frac{2}{5}} = \dfrac{\frac{15+16}{40}}{\frac{15-16}{40}} = \dfrac{\frac{31}{40}}{\frac{15-16}{40}} = \dfrac{\frac{31}{40}}{\frac{-1}{40}} = -\dfrac{1240}{40} = -31$ ①

BROJ BODOVA : ___ /14

OCJENA : _____ ( )

POTPIS : _____