

PREVERJANJE ZNANJA

1. Izračunaj vrednosti izrazov:

$$\begin{aligned}6 \cdot 3 - 3(6 \cdot (-2) + 9)(-4 - 2 \cdot 8 \cdot (-3)) &= \\ -2(3 + 6 \cdot (-2) - 7)(5 - 1 - (-8) \cdot 4) &= \\ (4 \cdot 3 - (12 \cdot 1 + 2))(-5 - (-1))(-3) &= \end{aligned}$$

[R:414, 1536, -24]

2. Izračunaj:

$$\begin{aligned}(-1)^2(-1)^5 - (-2)^2(-1)^{13} + (-5)^2 &= \\ (-2)^3 + (-3)^2 + (-1)^5 - (-2)^2 - (-1)^4 + (-2)^2 &= \\ (-5)^2 - (-1)^{14} \cdot ((-4)^2 - (-2)^3 \cdot (-1)^{77}) \cdot (-3)^2 - (-3)^3 &= \end{aligned}$$

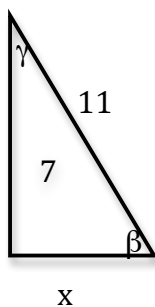
[R: 28, -1, -20]

3. Poenostavi:

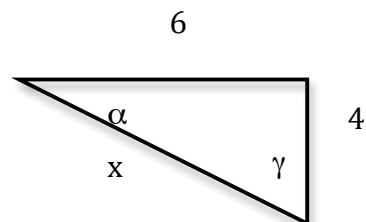
$$\begin{aligned}(-a)^3 \cdot a^2 \cdot (-a)^7 &= \\ (-3x^3y^5)(-5x^4y^2)^3 &= \\ (-8a)^2(-3b)^5 &= \\ a^{m-1} \cdot a^{n+1} \cdot a^{m+n} \cdot b^{3m-2n} \cdot b^{2m+3n} &= \end{aligned}$$

[R: $a^{12}, 375x^{15}y^{11}, -15552a^2b^5, a^{2m+2n}b^{5m+n}$]

4. Izračunaj manjkajoče količine:



[R: $\beta=39,52^\circ, \gamma=50,48^\circ, x=8,45$]



[R: $\alpha=33,69^\circ, \gamma=56,3^\circ, x=7,2$]

5. Skrči izraze:

$$(5x + 3y) - 2(5x - 6y) + 3(x - 5y) =$$

$$3(2(x - 2y) - 3(2x - y) - 5y) =$$

$$(a^3b + a^2b^2 + 3ab^3)(-2ab + b^2) =$$

$$(4a^2b - 2ab + 3b^2)(ab - 2b + 1) =$$

[R:

$$-2x, -12x - 18y, -2a^4b^2 - a^3b^3 - 5a^2b^4 + 3ab^5, 4a^3b^2 - 10a^2b^2 + 4a^2b - 2ab + 4ab^2 + 3ab^3 + 3b^2 - 6b^3$$

]

6. Potenciraj:

$$(2a^3 + b^3)^2 =$$

$$(-x^3y + xy^2)^3 =$$

$$(2x - y - 3)^2 =$$

$$(1 - x)^3 =$$

7. Razstavi:

$$2 - 18a^3b^3 =$$

$$3x(6a - 9b) + 2(6a - 9b) =$$

$$xy - y^2 - x + y =$$

$$x^2y^2 - z^2 =$$

$$x^8 - 256y^8 =$$

$$27x^3y^3 - 1 =$$

$$a^2 - 9a - 22 =$$

$$9a^2 - 12ab + 4b^2 =$$

$$a^2 - b^2 - 2bc - c^2 =$$

8. Zapiši množico vseh deliteljev števila:

27, 45, 64, 102

9. Zapiši število kot produkt samih praštevil:

312, 900, 336, 6225, 3185, 567000

10. Katero od naslednjih števil je deljivo z 2,3,4,5,6,8,9,10,11?

75, 528, 986, 1000, 3720, 5220, 9990, 4444, 25002

11. Ali je število $5^{1001} + 5^{1000} + 5^{999}$ deljivo z 31?