פעולות סוגרים המשולבים בחזקה

11. $(5x)^2 = 5^2 \cdot x^2 = 25x^2$

12. $(x^2)^6 = x^{2 \cdot 6} = x^{12}$

13. $\left(\frac{1}{4}\right)^3 = \frac{1^3}{4^3} = \frac{1}{64}$

14. $\frac{(x+5)^4}{(x+5)^1} = (x+5)^{4-1} = (x+5)^3$

15. $\left(\frac{3x}{y}\right)^2 = \frac{(3x)^2}{y^2} = \frac{3^2x^2}{y^2} = \frac{9x^2}{y^2}$

16. $(5x^2y)^2 = 5^2 \cdot (x^2)^2 \cdot y^2 = 5^2 \cdot x^{2 \cdot 2} \cdot y^2 = 25x^4y^2$

17. $\left(\frac{x^5}{y}\right)^2 = \frac{(x^5)^2}{y^2} = \frac{x^{5 \cdot 2}}{y^2} = \frac{x^{10}}{y^2}$

18. $(x^x)^x = x^{x \cdot x} = x^{x^2}$

19. $(4x^x)^y = 4^y \cdot (x^x)^y = 4^y \cdot x^{x \cdot y}$

20. $(x^{2x})^{6x} = x^{2x \cdot 6x} = x^{12x^2}$

21. $\frac{x^{5-2x}}{x^2} = x^{5-2x-2} = x^{3-2x}$

22. $\left(\frac{x}{4y}\right)^3 = \frac{x^3}{(4y)^3} = \frac{x^3}{4^3y^3} = \frac{x^3}{64y^3}$

23. $\frac{x^3}{y^4} \cdot \frac{y^5}{x^2} = x^{3-2} \cdot y^{5-4} = x \cdot y$

24. $\frac{5^{4x+2}}{5^x(5^x)^3} = \frac{5^{4x+2}}{5^x \cdot 5^{3x}} = \frac{5^{4x+2}}{5^{3x+x}} = \frac{5^{4x+2}}{5^{4x}} = 5^{4x+2-4x} = 5^2 = 25$

25. $\left(\frac{x^9}{x^7} \cdot \frac{y^6}{y^3}\right)^3 = (x^{9-7} \cdot y^{6-3})^2 = (x^2y^3)^3 = x^{2 \cdot 3} \cdot y^{3 \cdot 3} = x^6y^9$

26. $\left(\frac{2}{x^5}\right)^3 \cdot \left(\frac{x^4}{2}\right)^4 = \frac{2^3}{x^{5 \cdot 3}} \cdot \frac{x^{4 \cdot 4}}{2^4} = \frac{2^3}{x^{15}} \cdot \frac{x^{16}}{2^4} = x^{16-15} \cdot 2^{3-4} = x \cdot 2^{-1} = \frac{x}{2}$