ZAD 3

$$\frac{(3^{-2})^{-3}}{3^8} = \frac{3^6}{3^8} = 3^{(6-8)} = 3^{-2} = \frac{1}{9}$$

$$\frac{(5^{-1})^{-3}}{5^6} = \frac{5^3}{5^6} = 5^{(3-6)} = 5^{-3} = \frac{1}{125}$$

$$\frac{(4^{-5})^{-2}}{4^9} = \frac{4^{10}}{4^9} = 4^{(10-9)} = 4^1 = 4$$

$$\frac{(2^2)^{-4}}{2^{-6}} = \frac{2^{-8}}{2^{-6}} = 2^{(-8+6)} = 2^{-2} = \frac{1}{9}$$

ZAD 2

$$(1+\sqrt{2})^2 + (1-\sqrt{2})^2 =$$

$$= 1^2 + 2\sqrt{2} + 2 + 1^2 - 2\sqrt{2} + 2 =$$

$$= 1 + 1 + 2 + 2 = 6$$

$$(\sqrt{3}-1)^2 - (2-\sqrt{3})^2 = 3 - 2\sqrt{3} + 1 - (4 - 4\sqrt{3} + 3) =$$

$$= 4 - 2\sqrt{3} - 4 + 4\sqrt{3} - 3 = 3 + 2\sqrt{3}$$

ZAD 1

$$(\sqrt{3} + 2\sqrt{2})(4\sqrt{3} - 8\sqrt{2}) = 4 \cdot 3 - 8\sqrt{6} + 8\sqrt{6} - 16 \cdot 2 =$$

$$= 12 - 32 = -20$$

$$(2\sqrt{5} - 4\sqrt{2})(2\sqrt{2} - \sqrt{5}) = 4\sqrt{10} - 10 - 16 + 4\sqrt{10} =$$

$$= 8\sqrt{10} - 26$$