Verbesserung KW 46

Aufgabe 2:

a) $x^2 + 6x + 9$

b) $16 - 8a + a^2$

c) $\frac{4}{25} + \frac{4}{5}c^2 + c^4$

d) $2 - 2\sqrt{2}u + u^2$

e) $a^4x^2 - 2a^3x^3 + a^2x^4$

f) $4 - y^2$

g) $\frac{1}{16}u^2 - \frac{1}{6}uv + \frac{1}{9}v^2$

h) $81c^4 - d^2$

Aufgabe 3:

a) $(4r + 8)(4r - 8)$

b) $3(p - v)^2$

c) $(5x - 3y)^2$

d) $(u - \sqrt{2})(u + \sqrt{2})$

e) $2(1 - 2a)^2$

f) $\left(\frac{1}{2}a + \sqrt{2}b\right)^2$

Aufgabe 4:

a) $x^2 + 2xy + y^2 + 3x^2 + xy - y^2 + y = 4x^2 + 3xy + y$

b) $u^2 + \frac{2}{3}u + \frac{1}{9} - \frac{1}{2}u - u^2 + \frac{1}{6} + \frac{1}{3}u - \frac{5}{18} = \frac{1}{2}u$

c) $\frac{5}{3-\sqrt{2}} = \frac{5(3+\sqrt{2})}{(3-\sqrt{2})(3+\sqrt{2})} = \frac{15+5\sqrt{2}}{9-2} = \frac{15}{7} + \frac{5}{7}\sqrt{2}$

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