

Lösungen:

<p>1</p>	<p>Bitte bringen Sie den Ausdruck in die Form $(\square \pm \square)(\square \pm \square)$</p> <p>a) $9s^3z^2 + 13sz - 18s^2z - 26$ L: $(-sz + 2)(-9s^2z - 13)$ b) $10v^3 + 9v^4 + 90v + 81v^2$ L: $(v^2 + 9)(10v + 9v^2)$ c) $18pv + 6p - 3v - 1$ L: $(-6p + 1)(-3v - 1)$ d) $10i^4 - 39i^2 + 14$ L: $(-5i^2 + 2)(-2i^2 + 7)$</p>
<p>2</p>	<p>Bitte berechnen Sie</p> <p>a) $(13,4v^2z + 13,5f^2v^2)^2$ L: $179,56v^4z^2 + 361,8f^2v^4z + 182,25f^4v^4$ b) $(-6,1d - 2,2d^2p)^2$ L: $37,21d^2 + 26,84d^3p + 4,84d^4p^2$ c) $(-2,5nt^2 + 14,6r^2)^2$ L: $6,25n^2t^4 - 73nr^2t^2 + 213,16r^4$ d) $(-12v - 3,2)(-12v + 3,2)$ L: $144v^2 - 10,24$ e) $(2,3u^2 - 11,2u^2w^2)^2$ L: $5,29u^4 - 51,52u^4w^2 + 125,44u^4w^4$</p>
<p>3</p>	<p>Bitte bestimmen Sie die quadratische Ergänzung</p> <p>a) $169p^2 - 156op$ L: $169p^2 - 156op + 36o^2 = (13p - 6o)^2$ b) $16j^2 - 40jr$ L: $16j^2 - 40jr + 25r^2 = (4j - 5r)^2$ c) $9y^2 + 12y$ L: $9y^2 + 12y + 4 = (3y + 2)^2$ d) $49b^2 - 70bn$ L: $49b^2 - 70bn + 25n^2 = (7b - 5n)^2$ e) $x^2 + px$ L: $x^2 + px + 0,25p^2 = (x + 0,5p)^2$; f) $59,29z^2 + 152,46pz$ L: $59,29z^2 + 152,46pz + 98,01p^2 = (7,7z + 9,9p)^2$ g) $33,64a^2 + 146,16af$ L: $33,64a^2 + 146,16af + 158,76f^2 = (5,8a + 12,6f)^2$ h) $70,56z^2 - 97,44z$ L: $70,56z^2 - 97,44z + 33,64 = (8,4z - 5,8)^2$ i) $37,21i^2 + 162,26gi$ L: $37,21i^2 + 162,26gi + 176,89g^2 = (6,1i + 13,3g)^2$</p>
<p>4</p>	<p>Bitte berechnen Sie die Unbekannte</p> <p>a) $-8(7i - 8) + 2(8i - 1) - 1 = -259$ L: $i = 8$; b) $2(-2w - 8) - 9(-10w + 5) + 8 = 377$ L: $w = 5$; c) $-5(-9h - 7) - 7(-8h - 2) + 4 = 356$ L: $h = 3$; d) $-7(q - 3) + 8(10q - 5) - 8 = 411$ L: $q = 6$;</p>
<p>5</p>	<p>Bitte bestimmen Sie die binomische Formel</p> <p>a) $116,64w^2 + 218,16w + 102,01$ L: $(10,8w + 10,1)^2$ b) $179,56v^2 - 53,6v + 4$ L: $(13,4v - 2)^2$ c) $27,04k^2 - 27,04fk + 6,76f^2$ L: $(5,2k - 2,6f)^2$ d) $121r^2 + 178,2r + 65,61$ L: $(11r + 8,1)^2$ e) $169o^2 - 26,01a^2$ L: $(13o + 5,1a)(13o - 5,1a)$ f) $26,01s^2 - 78,54s + 59,29$ L: $(5,1s - 7,7)^2$ g) $17,64j^2 + 110,88j + 174,24$ L: $(4,2j + 13,2)^2$ h) $125,44a^2 + 100,8ad + 20,25d^2$ L: $(11,2a + 4,5d)^2$ i) $96,04m^2 - 213,16$ L: $(9,8m + 14,6)(9,8m - 14,6)$</p>

6 Bitte bestimmen Sie jeweils die angegebenen Unbekannten

a)

$$\frac{-3ny - gv}{-4uz - fz} - 2o = 2x \quad [n \ y \ z \ f]$$

L :

$$n = \frac{-8uxz - 2fxz - 8ouz - 2foz + gv}{-3y}$$

$$y = \frac{-8uxz - 2fxz - 8ouz - 2foz + gv}{-3n}$$

$$z = \frac{3ny + gv}{8ux + 2fx + 8ou + 2fo}$$

$$f = \frac{-8uxz - 8ouz + 3ny + gv}{2xz + 2oz}$$