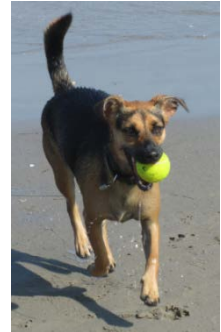


<b>Thema:</b> Binomische Formeln		<b>Grundkompetenz:</b> AG 2.1
<b>Name:</b>	<b>Schwierigkeitsgrad:</b> mittel	<b>Klasse:</b>

Ergänze die Lücken und kreuze die korrekten Lösungen für die jeweils zweite Lücke der Aufgaben an. Es entsteht ein Lösungssatz.



LÖSUNGSSATZ: \_\_\_\_\_

1)

- |   |                                      |                                       |                                     |
|---|--------------------------------------|---------------------------------------|-------------------------------------|
| a) $(\quad + \quad)^2 = \quad + 4ax^2 + a^2$    | $x^4$ <input type="checkbox"/> P     | $2x^2$ <input type="checkbox"/> K     | $a$ <input type="checkbox"/> L      |
| b) $(e + 13f)^2 = e^2 + \quad + \quad$          | $13f^2$ <input type="checkbox"/> A   | $169f$ <input type="checkbox"/> O     | $169f^2$ <input type="checkbox"/> U |
| c) $(5ab + \quad)^2 = \quad + \quad + c^2$      | $5a^2b^2$ <input type="checkbox"/> S | $25a^2b^2$ <input type="checkbox"/> C | $25ab$ <input type="checkbox"/> H   |
| d) $(\quad + \quad)^2 = \quad + 12xy + 4y^2$    | $2y$ <input type="checkbox"/> K      | $4y$ <input type="checkbox"/> Z       | $9x^2$ <input type="checkbox"/> T   |
| e) $(\quad + \quad)^2 = 49z^4 + \quad + 121y^2$ | $11$ <input type="checkbox"/> V      | $11y^2$ <input type="checkbox"/> O    | $11y$ <input type="checkbox"/> Y    |

2)

- |   |                                     |                                    |                                     |
|---|-------------------------------------|------------------------------------|-------------------------------------|
| a) $(\quad - \quad)^2 = x^2 - 6ex + 9e^2$     | $6ex$ <input type="checkbox"/> M    | $x$ <input type="checkbox"/> P     | $3e$ <input type="checkbox"/> L     |
| b) $(\quad - \quad)^2 = 625f^2 - \quad + z^6$ | $50fz^3$ <input type="checkbox"/> R | $z^3$ <input type="checkbox"/> I   | $25f$ <input type="checkbox"/> E    |
| c) $(\quad - b^2)^2 = \quad - 12b^3 + \quad$  | $36b^2$ <input type="checkbox"/> E  | $12b^2$ <input type="checkbox"/> I | $36b$ <input type="checkbox"/> A    |
| d) $(4c - \quad)^2 = \quad - 40cd + \quad$    | $5d^2$ <input type="checkbox"/> A   | $16c$ <input type="checkbox"/> K   | $16c^2$ <input type="checkbox"/> B  |
| e) $(10g - \quad)^2 = \quad - \quad + 49a^2$  | $10g^2$ <input type="checkbox"/> G  | $100g$ <input type="checkbox"/> H  | $100g^2$ <input type="checkbox"/> T |

3)

- |  |                                    |                                  |                                   |
|--|------------------------------------|----------------------------------|-----------------------------------|
| a) $(\quad - \quad)^2 = x^2 - 10x + 25$      | $10x^2$ <input type="checkbox"/> D | $x$ <input type="checkbox"/> H   | $5$ <input type="checkbox"/> S    |
| b) $(\quad + 3)^2 = x^2 + \quad + \quad$     | $x$ <input type="checkbox"/> A     | $6x$ <input type="checkbox"/> E  | $9x$ <input type="checkbox"/> I   |
| c) $(\quad \quad 7)^2 = \quad - 28x + \quad$ | $4x^2$ <input type="checkbox"/> I  | $2x$ <input type="checkbox"/> U  | $49^2$ <input type="checkbox"/> J |
| d) $(\quad - \quad)^2 = 25x^2 - 10x + 1$     | $-1$ <input type="checkbox"/> M    | $1$ <input type="checkbox"/> N   | $0$ <input type="checkbox"/> F    |
| e) $(x - 15)(x + \quad) = \quad - 225$       | $15$ <input type="checkbox"/> A    | $x^2$ <input type="checkbox"/> E | $15x$ <input type="checkbox"/> L  |

4)

- |   |                                    |                                   |                                   |
|---|------------------------------------|-----------------------------------|-----------------------------------|
| a) $(\quad - \quad)(\quad + \quad) = z^2 - f^2$ | $z$ <input type="checkbox"/> T     | $f$ <input type="checkbox"/> B    | $z^2$ <input type="checkbox"/> L  |
| b) $(\quad - 5b)(\quad + 5b) = 9a^2 - \quad$    | $9a$ <input type="checkbox"/> Ö    | $-9a$ <input type="checkbox"/> Ü  | $3a$ <input type="checkbox"/> Ä   |
| c) $(\quad - 1)(\quad + 1) = 49a^4 - \quad$     | $49a^4$ <input type="checkbox"/> T | $7a^2$ <input type="checkbox"/> L | $1$ <input type="checkbox"/> B    |
| d) $(6x - g)(\quad + \quad) = 36x^2 - g^2$      | $g$ <input type="checkbox"/> L     | $6x$ <input type="checkbox"/> U   | $6x^2$ <input type="checkbox"/> K |
| e) $(\quad - \quad)(\quad + \quad) = p^6 - 81$  | $p^2$ <input type="checkbox"/> I   | $p^3$ <input type="checkbox"/> S  | $9$ <input type="checkbox"/> E    |



Thema: Binomische Formeln <a href="#">Lösungen</a>		Grundkompetenz: AG 2.1
Name:	Schwierigkeitsgrad: mittel	Klasse:

Ergänze die Lücken und kreuze die korrekten Lösungen für die jeweils zweite Lücke der Aufgaben an. Es entsteht ein Lösungssatz.

LÖSUNGSSATZ: LUCKY LIEBT SEINE BÄLLE

1)

- |  |                                      |                                       |                                     |
|--|--------------------------------------|---------------------------------------|-------------------------------------|
| a) $(2x^2 + a)^2 = 4x^4 + 4ax^2 + a^2$         | $x^4$ <input type="checkbox"/> P     | $2x^2$ <input type="checkbox"/> K     | $a$ <input type="checkbox"/> L      |
| b) $(e + 13f)^2 = e^2 + 26ef + 169f^2$         | $13f^2$ <input type="checkbox"/> A   | $169f$ <input type="checkbox"/> O     | $169f^2$ <input type="checkbox"/> U |
| c) $(5ab + c)^2 = 25a^2b^2 + 10abc + c^2$      | $5a^2b^2$ <input type="checkbox"/> S | $25a^2b^2$ <input type="checkbox"/> C | $25ab$ <input type="checkbox"/> H   |
| d) $(3x + 2y)^2 = 9x^2 + 12xy + 4y^2$          | $2y$ <input type="checkbox"/> K      | $4y$ <input type="checkbox"/> Z       | $9x^2$ <input type="checkbox"/> T   |
| e) $(7z^2 + 11y)^2 = 49z^4 + 154yz^2 + 121y^2$ | $11$ <input type="checkbox"/> V      | $11y^2$ <input type="checkbox"/> O    | $11y$ <input type="checkbox"/> Y    |

2)

- |  |                                     |                                    |                                     |
|--|-------------------------------------|------------------------------------|-------------------------------------|
| a) $(x - 3e)^2 = x^2 - 6ex + 9e^2$         | $6ex$ <input type="checkbox"/> M    | $x$ <input type="checkbox"/> P     | $3e$ <input type="checkbox"/> L     |
| b) $(25f - z^3)^2 = 625f^2 - 50fz^3 + z^6$ | $50fz^3$ <input type="checkbox"/> R | $z^3$ <input type="checkbox"/> I   | $25f$ <input type="checkbox"/> E    |
| c) $(6b - b^2)^2 = 36b^2 - 12b^3 + b^4$    | $36b^2$ <input type="checkbox"/> E  | $12b^2$ <input type="checkbox"/> I | $36b$ <input type="checkbox"/> A    |
| d) $(4c - 5d)^2 = 16c^2 - 40cd + 25d^2$    | $5d^2$ <input type="checkbox"/> A   | $16c$ <input type="checkbox"/> K   | $16c^2$ <input type="checkbox"/> B  |
| e) $(10g - 7a)^2 = 100g^2 - 140ag + 49a^2$ | $10g^2$ <input type="checkbox"/> G  | $100g$ <input type="checkbox"/> H  | $100g^2$ <input type="checkbox"/> T |

3)

- |                                   |                                    |                                  |                                   |
|-----------------------------------|------------------------------------|----------------------------------|-----------------------------------|
| a) $(x - 5)^2 = x^2 - 10x + 25$   | $10x^2$ <input type="checkbox"/> D | $x$ <input type="checkbox"/> H   | $5$ <input type="checkbox"/> S    |
| b) $(x + 3)^2 = x^2 + 6x + 9$     | $x$ <input type="checkbox"/> A     | $6x$ <input type="checkbox"/> E  | $9x$ <input type="checkbox"/> I   |
| c) $(2x - 7)^2 = 4x^2 - 28x + 49$ | $4x^2$ <input type="checkbox"/> I  | $2x$ <input type="checkbox"/> U  | $49^2$ <input type="checkbox"/> J |
| d) $(5x - 1)^2 = 25x^2 - 10x + 1$ | $-1$ <input type="checkbox"/> M    | $1$ <input type="checkbox"/> N   | $0$ <input type="checkbox"/> F    |
| e) $(x - 15)(x + 15) = x^2 - 225$ | $15$ <input type="checkbox"/> A    | $x^2$ <input type="checkbox"/> E | $15x$ <input type="checkbox"/> L  |

4)

- |  |                                    |                                   |                                   |
|--|------------------------------------|-----------------------------------|-----------------------------------|
| a) $(z - f)(z + f) = z^2 - f^2$        | $z$ <input type="checkbox"/> T     | $f$ <input type="checkbox"/> B    | $z^2$ <input type="checkbox"/> L  |
| b) $(3a - 5b)(3a + 5b) = 9a^2 - 25b^2$ | $9a$ <input type="checkbox"/> Ö    | $-9a$ <input type="checkbox"/> Ü  | $3a$ <input type="checkbox"/> Ä   |
| c) $(7a^2 - 1)(7a^2 + 1) = 49a^4 - 1$  | $49a^4$ <input type="checkbox"/> T | $7a^2$ <input type="checkbox"/> L | $1$ <input type="checkbox"/> B    |
| d) $(6x - g)(6x + g) = 36x^2 - g^2$    | $g$ <input type="checkbox"/> L     | $6x$ <input type="checkbox"/> U   | $6x^2$ <input type="checkbox"/> K |
| e) $(p^3 - 9)(p^3 + 9) = p^6 - 81$     | $p^2$ <input type="checkbox"/> I   | $p^3$ <input type="checkbox"/> S  | $9$ <input type="checkbox"/> E    |

