

21. Řešte rovnice:

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|--------------------------|------------------------|
| a) $4x + 2 = 3x + 5$; | e) $10y - 5 = y + 4$; |
| b) $8x + 3 = 5x + 6$; | f) $3z = 5z - 10$; |
| c) $4u + 15 = 7u$; | g) $9n = 11n + 6$. |
| d) $3a - 19 = 7a + 31$; | |

22. Řešte rovnice:

- a) $x - 7 + 8x = 9x - 3 - 4x$;
- b) $11y + 42 - 2y = 100 - 9y - 22$;
- c) $3t - 20 + 6t - 2 = 8t - 10 + 2t$;
- d) $\frac{1}{2}x + 21 - \frac{1}{4}x - 2 = 3\frac{1}{4}x - 5$;
- e) $0,2b - b = 9 + 0,6b - 0,5b$;
- f) $0,75z + 2 - z = 2z + 1 + 0,75z$.

23. Řešte rovnice:

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|------------------------|----------------------------|
| a) $3x + 2 = -1$; | c) $\frac{x}{2} + 1 = 3$; |
| b) $x - 7 = 2x - 17$; | d) $8m + 3 = -29$. |

24. Řešte rovnice:

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|---------------------------|--|
| a) $5(x - 1) = 30$; | e) $3(r - 1) = 2(r + 3)$; |
| b) $3(y - 5) + 8 = 17$; | f) $(2a - 1) \cdot 9 = 36$; |
| c) $24 = 8(6 + n)$; | g) $\frac{1}{2}(x + 8) = \frac{1}{4}(20 - 2x)$; |
| d) $9 - 5(z - 2) = -11$; | h) $3(2\frac{1}{2}v + 8,3 + 1,5v) = 0,9$. |

25. Řešte rovnice:

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|------------------------------|-------------------------------------|
| a) $15(x + 2) = 6(2x + 7)$; | d) $(2n - 9) \cdot 5 = 3(9 - 2n)$; |
| b) $7(2y + 3) = 7(y + 17)$; | e) $2(5z - 3) = (z + 2) \cdot 7$; |
| c) $8(9 + 2p) = 5(2 - 3p)$; | f) $6(m + 2) - 9(m - 1) = 0$. |

26. Řešte rovnice:

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|---|---|
| a) $s - (-1) = 0,56$; | d) $1\frac{3}{4} - 7n = -3\frac{1}{2} : \frac{2}{3}$; |
| b) $1\frac{1}{2}x - 7\frac{5}{6} = -5\frac{1}{3}$; | e) $\frac{2}{5} - 3z = \frac{1}{5} - 0,1$; |
| c) $-0,8 - 5y = \frac{1}{2} \cdot (-\frac{3}{5})$; | *f) $u + \frac{4}{100} = -5\frac{1}{4} - 4\frac{7}{25}$. |

27. Řešte rovnice:

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|-----------------------------|-----------------------------|
| a) $\frac{x}{4} - 2 = -5$; | c) $\frac{y}{5} + 3 = -7$; |
| b) $0,6x - 4 = -2,8$; | d) $0,1 - 0,01x = -1$. |

2. Řešení rovnic (2. část)

Řešte následující rovnice a přesvědčte se vždy o správnosti řešení.

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|--|------------------------|
| 1. a) $x + 15 = 51$; | c) $x - 1 = -1$; |
| b) $y + 2 = -2$; | d) $2z - z = 0$. |
| 2. a) $7r = \frac{1}{2}$; | c) $3 = 8x$; |
| b) $\frac{1}{2}x = \frac{1}{4}$; | d) $a = 2a - 19$. |
| 3. $x + 2x - 5 + 3x + 10 - 4x = x + 6$. | |
| 4. a) $4x - 2 = 3x + 5$; | e) $10y - 4 = y + 4$; |
| b) $8x - 3 = 5x + 6$; | f) $3z = 5z - 1$; |
| c) $4u + 5 = 7u$; | g) $8n = 11n + 6$. |
| d) $2a - 19 = 7a + 31$; | |
| 5. a) $2(y - 1) - 3(y - 2) + 4(y - 3) = 2(y + 5)$; | |
| b) $x - 4(x - 11) - 5(x - 16) = 4(x - 5)$; | |
| c) $10u + 2(7u - 2) = 5(4u + 3) + 3u$; | |
| d) $8(3z - 2) - 13z = 5(12 - 3z) + 7z$; | |
| e) $2(3x - 10) - 27 + 3(10 - 2x) = 0$. | |
| 6. a) $3(2x - 1) - 5(x - 3) + 6(3x - 4) = 83$; | |
| b) $4(y + 2) - 7(2y - 1) = 30 - 9(3y - 4)$; | |
| c) $8(7 - 4x) - 7(4x + 1) = 19 - 5(8x - 1)$; | |
| d) $3(2r + 1) + 7(6r - 1) = 5(12r - 7) + 23$; | |
| e) $4(t - 5) + 2(t + 1) - 7(t - 9) + 12(t - 8) = 8(t - 3)$. | |
| 7. a) $(x + 1)(x - 2) = (x - 3)(x + 4)$; | |
| b) $3u^2 - (3u + 2)(u - 1) = 8$; | |
| c) $(y + 1)(y + 2) - (y - 3)(y + 4) = 6$; | |
| d) $(3z - 1)(2z + 7) - 16 = (z + 1)(6z - 5)$; | |
| e) $(3x - 2)(2x + 3) - (6x^2 - 85) = 99$. | |
| 8. a) $r(7r + 21) = 7(r + 1)^2$; | |
| b) $x^2 - (x - 2)^2 = 16$; | |
| c) $(m - 3)^2 = 10 + (m - 5)(m - 2)$; | |
| d) $(3p + 5)(3p - 5) - (3p - 1)^2 = 10$; | |
| e) $(x + 5)(x + 2) - 3(4x - 3) = (x - 5)^2$. | |
| 9. a) $(v + 2)(v + 8) = (v - 10)^2$; | |
| b) $(x - 3)(x + 4) - 2(3x - 2) = (x - 4)^2$; | |
| c) $z(z + 3)^2 + 8 = z(1 - z)^2 + 8z^2$; | |
| d) $(5y + 2)^2 = (3y + 1)^2 + (4y - 1)^2$; | |
| e) $(x + 2)(x - 1)^2 = x(x^2 - 4) + 4$. | |
| 10. a) $3(x - 1)^2 - 3x(x - 5) = 21$; | |
| b) $4m(m - 1) - (2m + 5)(2m - 5) = 1$; | |
| c) $5x - 3(x - 4) - [2x - (x + 5) + 8] = 0$; | |
| d) $1,3(x - 0,7) - 0,12(x + 10) - 5x = -9,75$. | |

Řešení rovnice a rovnice:

úkol: Mr. 132

$$8a) \quad x + 7 = 10$$
$$x = 10 - 7$$

$$x = 3$$

$$2k: L = 3 + 7 = 10$$

$$P = 10$$

$$L = P$$

11c)

$$3k - 8 = k + 6$$

$$3k - k = 6 + 8$$

$$2k = 14$$

$$k = 14 : 2$$

$$k = 7$$

2k:

$$L = 3 \cdot 7 - 8 = 21 - 8 = 13$$

$$P = 7 + 6 = 13$$

$$L = P$$

Mr. 133

$$13b) \quad 7x = -14$$
$$x = -14 : 7$$

$$x = -2$$

2k:

$$L = 7 \cdot (-2) = -14$$

$$P = -14$$

$$L = P$$

$$18a) \quad 3x + 5 = 6x - 10$$

$$3x - 6x = -10 - 5$$

$$-3x = -15$$

$$x = -15 : (-3)$$

$$8b) \quad y - 3 = 5$$
$$y = 5 + 3$$

$$y = 8$$

$$2k: L = 8 - 3 = 5$$

$$P = 5$$

$$L = P$$

11j)

$$5x + 9 = 21 - 3x$$

$$5x + 3x = 21 - 9$$

$$8x = 12$$

$$x = 12 : 8$$

$$x = 1,5$$

2k:

$$L = 5 \cdot 1,5 + 9 = 7,5 + 9 = 16,5$$

$$P = 21 - 3 \cdot 1,5 = 21 - 4,5 = 16,5$$

$$L = P$$

$$10k) \quad 10 + 4x = 46$$

$$4x = 46 - 10$$

$$4x = 36$$

$$x = 36 : 4$$

$$x = 9$$

2k:

$$L = 10 + 4 \cdot 9 = 36 + 10 = 46$$

$$P = 46$$

$$L = P$$

$$\frac{12}{8} = \frac{3}{2} = 1,5$$

$$13e) \quad -4m = -60$$
$$m = -60 : (-4)$$

$$m = 15$$

2k:

$$L = -4 \cdot 15 = -60$$

$$P = -60$$

$$L = P$$

$$x = 5$$

$$2k: L = 3 \cdot 5 + 5 = 20$$

$$P = 6 \cdot 5 - 10 = 20$$

$$L = P$$

15d)

$$3k - 1 = k + 5$$

$$3k - k = 5 + 1$$

$$2k = 6$$

$$k = 6 : 2$$

$$k = 3$$

$$2k: L = 3 \cdot 3 - 1 = 8$$

$$P = 3 + 5 = 8$$

$$L = P$$

$$20f) \quad 5(y - 1) = 45$$

$$5y - 5 = 45$$

$$5y = 50$$

$$y = 50 : 5 = 10$$

$$5y = 45 + 5$$

$$2k: L = 5(10 - 1) = 5 \cdot 9 = 45$$
$$P = 45$$
$$L = P$$