



## Ungleichungen I

Löse folgende Ungleichungen auf einem Extrablatt!

$$1. 5x - 4 < 51 - 6x$$

$$2. 7x - 1 > 5x - 17$$

$$3. 7 - x > 8 - 2x$$

$$4. 3(9x + 6) - 2x > - 182$$

$$5. 8(8x - 4) - 7x < - 317$$

$$6. 5(4x + 6) - 2x > - 132$$

$$7. -2(1 - 3x) > 80 + 5(-3x - 8)$$

$$8. 4(7 - 6x) > - 8(4 - 6x) - 444$$

$$9. 5(-8x - 7) > -3(-3x - 1) - 283$$

$$10. \quad 8(x - 7)(x + 7) < x(8x + 5) - 357$$

$$11. \quad (x + 2)(x - 4) < 2 + x(x - 7)$$

$$12. \quad 6(x - 4)(x - 5) < x(6x + 1) - 100$$



## Ungleichungen I

Löse folgende Ungleichungen auf einem Extrablatt!

### Lösungen

$$1. 5x - 4 < 51 - 6x$$

$$L = \{ x \mid x < 5 \}$$

$$2. 7x - 1 > 5x - 17$$

$$L = \{ x \mid x > -8 \}$$

$$3. 7 - x > 8 - 2x$$

$$L = \{ x \mid x > 1 \}$$

$$4. 3(9x + 6) - 2x > -182$$

$$L = \{ x \mid x > -8 \}$$

$$5. 8(8x - 4) - 7x < -317$$

$$L = \{ x \mid x > -5 \}$$

$$6. 5(4x + 6) - 2x > -132$$

$$L = \{ x \mid x > -9 \}$$

$$7. -2(1 - 3x) > 80 + 5(-3x - 8)$$

$$L = \{ x \mid x > 2 \}$$

$$8. 4(7 - 6x) > -8(4 - 6x) - 444$$

$$L = \{ x \mid x < 7 \}$$

$$9. 5(-8x - 7) > -3(-3x - 1) - 283$$

$$L = \{ x \mid x < 5 \}$$

$$10. 8(x - 7)(x + 7) < x(8x + 5) - 357$$

$$L = \{ x \mid x > -7 \}$$

$$11. (x + 2)(x - 4) < 2 + x(x - 7)$$

$$L = \{ x \mid x < 2 \}$$

$$12. 6(x - 4)(x - 5) < x(6x + 1) - 100$$

$$L = \{ x \mid x > 4 \}$$



## Ungleichungen II

Löse folgende Ungleichungen auf einem Extrablatt!

$$1. 2 + 4x < -x - 13$$

$$2. 3 + 7x < 28 + x$$

$$3. 4 - 9x > 12 - 8x$$

$$4. 4(3x - 9) - 6x > 0$$

$$5. 4(7x + 6) - 9x < 157$$

$$6. 8(x + 5) + 5x < 14$$

$$7. (-3x - 6) > 149 + 5(5x - 3)$$

$$8. 9(1 + 8x) > -4(-9x - 1) - 319$$

$$9. -6(9 - 2x) < 2(-5x - 4) - 134$$

$$10. \quad 5(x + 6)(x - 9) < x(5x - 1) - 340$$

$$11. \quad 8(x + 7)(x + 7) > 513 + x(8x - 9)$$

$$12. \quad 2(x - 6)(x - 9) > 45 + x(2x - 9)$$



## Ungleichungen II

### Lösungen

$$1. 2 + 4x < -x - 13 \\ L = \{ x \mid x < -3\}$$

$$2. 3 + 7x < 28 + x \\ L = \{ x \mid x > 5\}$$

$$3. 4 - 9x > 12 - 8x \\ L = \{ x \mid x < -8\}$$

$$4. 4(3x - 9) - 6x > 0 \\ L = \{ x \mid x > 6\}$$

$$5. 4(7x + 6) - 9x < 157 \\ L = \{ x \mid x < 7\}$$

$$6. 8(x + 5) + 5x < 14 \\ L = \{ x \mid x > -2\}$$

$$7. (-3x - 6) > 149 + 5(5x - 3) \\ L = \{ x \mid x < -5\}$$

$$8. 9(1 + 8x) > -4(-9x - 1) - 319 \\ L = \{ x \mid x > -9\}$$

$$9. -6(9 - 2x) < 2(-5x - 4) - 134 \\ L = \{ x \mid x < -4\}$$

$$10. 5(x + 6)(x - 9) < x(5x - 1) - 340 \\ L = \{ x \mid x < 5\}$$

$$11. 8(x + 7)(x + 7) > 513 + x(8x - 9) \\ L = \{ x \mid x > 1\}$$

$$12. 2(x - 6)(x - 9) > 45 + x(2x - 9) \\ L = \{ x \mid x > 3\}$$



## Ungleichungen III

Löse folgende Ungleichungen auf einem Extrablatt!

$$1. 2x - 4 > 3x - 13$$

$$2. 1 + 5x < -3x - 47$$

$$3. 7 + 4x < 49 - 2x$$

$$4. 9(5x + 6) + x < - 38$$

$$5. 5(4x - 7) + 7x > -170$$

$$6. 7(2x - 4) - 3x > 71$$

$$7. 3(-9x - 5) < 118 + (7 + 8x)$$

$$8. 6(2 - 3x) < 96 + 6(-8x - 9)$$

$$9. 6(-4x - 5) > 3(8 + 5x) - 327$$

$$10. 4(x - 8)(x - 6) > 381 + x(4x + 7)$$

$$11. 3(x + 3)(x + 5) < 150 + x(3x + 3)$$

$$12. 3(x + 2)(x + 2) < 51 + x(3x - 1)$$



## Ungleichungen III

### Lösungen

$$1. 2x - 4 > 3x - 13 \\ L = \{ x \mid x < 9 \}$$

$$2. 1 + 5x < -3x - 47 \\ L = \{ x \mid x > -6 \}$$

$$3. 7 + 4x < 49 - 2x \\ L = \{ x \mid x < 7 \}$$

$$4. 9(5x + 6) + x < -38 \\ L = \{ x \mid x < -2 \}$$

$$5. 5(4x - 7) + 7x > -170 \\ L = \{ x \mid x > -5 \}$$

$$6. 7(2x - 4) - 3x > 71 \\ L = \{ x \mid x > 9 \}$$

$$7. 3(-9x - 5) < 118 + (7 + 8x) \\ L = \{ x \mid x > -4 \}$$

$$8. 6(2 - 3x) < 96 + 6(-8x - 9) \\ L = \{ x \mid x < 1 \}$$

$$9. 6(-4x - 5) > 3(8 + 5x) - 327 \\ L = \{ x \mid x < 7 \}$$

$$10. 4(x - 8)(x - 6) > 381 + x(4x + 7) \\ L = \{ x \mid x < -3 \}$$

$$11. 3(x + 3)(x + 5) < 150 + x(3x + 3) \\ L = \{ x \mid x < 5 \}$$

$$12. 3(x + 2)(x + 2) < 51 + x(3x - 1) \\ L = \{ x \mid x < 3 \}$$



## Ungleichungen IV

Löse folgende Ungleichungen auf einem Extrablatt!

$$1. \frac{9}{2}(x - 1\frac{3}{5})(x + 1) > x(\frac{9}{2}x - \frac{8}{3}) - \frac{69}{10}$$

2.

$$3. \frac{3}{2}(x - 3)(x + \frac{3}{2}) > x(\frac{3}{2}x - \frac{7}{3}) - \frac{29}{4}$$

4.

$$5. \frac{7}{2}(x + 1)(x - 1) < x(\frac{7}{2}x + \frac{2}{3}) - \frac{41}{6}$$

6.

$$7. \frac{3}{2}(x + 3)(x - \frac{5}{4}) < x(\frac{3}{2}x - 1) - \frac{243}{4}$$

8.

$$9. \frac{1}{4}(x + \frac{1}{2})(x - \frac{3}{2}) > \frac{49}{16} + x(\frac{1}{4}x - \frac{4}{3})$$

10.

$$11. (x - \frac{1}{6})(x + \frac{3}{2}) > \frac{361}{12} + x(x - 3)$$



## Ungleichungen IV

### Lösungen

$$1. \frac{9}{2}(x - 1\frac{3}{5})(x + 1) > x(\frac{9}{2}x - \frac{8}{3}) - \frac{69}{10}$$

$$L = \{x|x < -9\}$$

$$2. \frac{3}{2}(x - 3)(x + \frac{3}{2}) > x(\frac{3}{2}x - \frac{7}{3}) - \frac{29}{4}$$

$$L = \{x|x < -6\}$$

$$3. \frac{7}{2}(x + 1)(x - 1) < x(\frac{7}{2}x + \frac{2}{3}) - \frac{41}{6}$$

$$L = \{x|x > 5\}$$

$$4. \frac{3}{2}(x + 3)(x + \frac{5}{4}) < x(\frac{3}{2}x - 1) - \frac{243}{4}$$

$$L = \{x|x < -9\}$$

$$5. \frac{1}{4}(x + \frac{1}{2})(x - \frac{3}{2}) > \frac{49}{16} + x(\frac{1}{4}x - \frac{4}{3})$$

$$L = \{x|x > \frac{3}{2}\}$$

$$6. (x - \frac{1}{6})(x + \frac{3}{2}) > \frac{361}{12} + x(x - 3)$$

$$L = \{x|x > 7\}$$