



## Englische Übungen zu Gleichungen, Ungleichungen und Formeln

1. Write and solve the equation to find the value of  $x$ . The sum of two blocks next to each other is the block above them. The first math pyramid has been started for you.

a.

|         |          |    |
|---------|----------|----|
| 28      |          |    |
| $6 + x$ | $x + 10$ |    |
| 6       | $x$      | 10 |

$(6 + x) + (x + 10) = 28$

b.

|     |      |   |
|-----|------|---|
| 70  |      |   |
| $x$ | $2x$ | 5 |

c.

|    |     |    |
|----|-----|----|
| 64 |     |    |
| 8  | $x$ | 14 |

d.

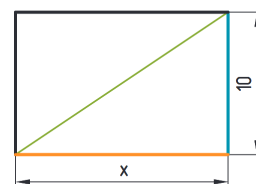
|          |  |         |
|----------|--|---------|
| 35       |  |         |
| $4x + 5$ |  |         |
| $3x + 2$ |  | $x - 3$ |

2. Write an equation and solve it to find the number I am thinking of.
- If I subtract 5 from the number and then multiply the result by 4, the answer is 16.
  - If I subtract 7 from the number and then multiply the result by 9, I get the same answer as when I take the number away from 7 and then double the result.
  - If I double the number, add 7 and then divide the result by 3, I get the same answer as when I subtract the number from 12 and then divide the result by 5.
3. Find three consecutive integers such that three times the middle number is 12 more than the sum of the other two numbers.  
Hint: Let the three numbers be  $x-1$ ,  $x$ , and  $x+1$





4. Write and solve an equation to find the answer.  
Ben and Mary are given the same amount of money for Christmas. Before Christmas Ben had 205 € and Mary had 25 €. Now Ben has four times as much as Mary? How much money were they each given for Christmas?
5. The length of a rectangle is two times its width. If the perimeter is 60 cm find its width and length.
6. A rectangle measures  $x$  by 10. The length of a diagonal of the rectangle is 2 cm greater than the longer side  $x$ . Find  $x$ .



7. Which inequality describes the statement best?
- a. More than 250 mm of rain fell yesterday.  
☐  $r < 250$       ☐  $r \leq 250$       ☐  $r > 250$       ☐  $r \geq 250$
- b. The speed limit through a village is 50 km/h.  
☐  $s < 50$       ☐  $s \leq 50$       ☐  $r > 50$       ☐  $r \geq 50$
- c. Hans never arrives at school earlier than 8:15 a.m.  
☐  $t < 8:15$    ☐  $t \leq 8:15$       ☐  $t > 8:15$       ☐  $t \geq 8:15$
- d. Write down three other statements that can be described with inequalities.





8. Look at the table given below. Write down in words the meaning of each equation below. The first one has been done for you.

|       | Age (in years) |
|-------|----------------|
| Ann   | a              |
| Bob   | b              |
| Cindy | c              |

- a.  $b = 28$  Ben is 28 years old.  
b.  $a + b = 49$   
c.  $b = 2c$   
d.  $\frac{a+b+c}{3} = 21$

## Vocabulary

| Englisch    | Deutsch             |
|-------------|---------------------|
| consecutive | aufeinander folgend |
| perimeter   | Umfang              |
| diagonal    | Diagonale           |
| inequality  | Ungleichung         |
| statement   | Aussage             |





## Solutions

1.

- b.  $3x + (2x + 5) = 70$
- c.  $(8 + x) + (x + 14) = 64$
- d.  $(4x + 5) + 2x = 35$

2.

- a.  $x = 9$
- b.  $x = 7$
- c.  $x = \frac{1}{13}$

3.  $x = 12$

4.  $x = 35 \text{ €}$

5. Width = 10, length = 20

6.  $x = 24$

7.

- a.  $r > 250$
- b.  $s \leq 50$
- c.  $t \geq 8:15$
- d. Possible options are:  
World War I was more than hundred years ago.  
The train is over 15 minutes late.  
The speed limit on motorways is 130 km/h.

8.

- b. Adding Ann's and Ben's ages gives 49 years.
- c. Ben is twice as old as Cindy.
- d. Adding Ann's, Ben's and Cindy's ages and dividing the sum by three gives 21. (Alternative: The average age of Ann, Ben and Cindy is 21.)

