

Word problems with addition and subtraction of whole numbers (solutions)

1. Sara leaves her car in the third basement and goes seven floors up to her house. On which floor is her house?
2. A pump extracts oil from a well at a depth of 975 m and raises it to a tank located at an altitude of 28 m. How many meters does the pump impulse?
3. We have €1,250 in our bank account. They deposited €2,240 in our salary and charged us €83 for our electricity bill, €48 for our internet bill, and issued us a €78 refund from Amazon. How much money do we have now?
4. On January 28th, a thermometer in Burgos reached as low as -12°C . On the same day there was 25°C in Santa Cruz de Tenerife. What was the temperature difference between these two cities?
- 5.- Augustus, the first Roman emperor, was born in 63 B.C. and died in 14 A.D. How long did he live? (Note that year 0 did not exist) [\[video\]](#)
- 6.- What difference in temperature does a person suffer when he goes from the vegetable storage chamber, which is at 4°C , to the frozen fish chamber, which is at -18°C ?
And if he went from the fish chamber to the vegetable chamber?
- 7.- How far is an airplane flying at an altitude of 11 km from a submarine that is at a depth of 850 m?
- 8.- The highest temperature recorded on Earth was 58°C in Libya in September 1922, and the lowest was -88°C in Antarctica in August 1960. What is the difference between the temperature recorded in Libya and the one recorded in Antarctica?
- 9.- Yesterday, the temperature at nine in the morning was 15°C . At noon it had risen by 6°C , at five in the afternoon it was 3°C more, at nine at night it had dropped by 7°C and at twelve at night it had still dropped another 4°C . What was the temperature at midnight?
- 10.- I took an elevator on the 2nd floor, then I went 3 floors down, 2 up, 4 down, 6 up, and finally, 3 down. Where did I end up my "elevator journey"?
- 11.- A winter day dawned at 3 degrees below zero. At noon the temperature rose 8 degrees, and, in the following hours until four in the afternoon, it rose 2 degrees more. From 4 a.m. to midnight it dropped 4 degrees, and until 6 a.m. it dropped 5 degrees more. What was the temperature at that time?
- 12.- In a biology laboratory they are studying the resistance of Covid-19 to temperature changes. They have a sample at 3°C below zero, they raise its temperature by 40°C , then they lower it by 60°C and raise it again by 25°C . What is the final temperature of the sample?
- 13.- Jesus and Mary play in the following way: they roll a die and write down the number that comes up. They write a positive sign when it is an even number and a negative sign when it is odd. The winner is the one who gets the most points at the end of all the spins.
Jesus: 3, 6, 1, 5, 2 Mary: 5, 2, 6, 5, 4
 - a) Who won the game?
 - b) Who was winning on the third move?

Word problems with combined integer operations

14.- We bought a new freezer. When we turn it on, it is at a temperature of 22°C . If it is able to reduce its temperature to 5°C every hour, what temperature will it have after 6 hours?

15.- The temperature of the air drops as we go up in the atmosphere, at a rate of 9°C every 800 meters. How high is an airplane flying if the air temperature above is -81°C while the ground temperature is 27°C ?

16.- In a tank there are 800 liters of water. A faucet pours 25 l per minute into the tank at the top, and 30 l per minute comes out of the bottom through a tube. How many liters of water will there be after 15 minutes?

17.- Camila has €73 in the bank. Every month her father pays her €21 and she takes out €11 for her expenses. How much money will Camila have in her notebook after six months?

18.- A pizza delivery man earns €36 every day and spends, on average, €5 on petrol and €10 on motorcycle repairs. If he also receives a tip of €11 per day, how much money do you have left at the end of the month (30 days)? [\[video\]](#)

19.- Every week your parents give you 5 euros, but you spend 3 euros on candies. How much money will you save in 5 weeks, considering that one of the days was your birthday, and you were also given 25 euros?

20.- A ship is sunk at a depth of about 200 meters. It is refloated at a speed of 2 meters per minute. How deep will it be after an hour?

21.- In a ski resort, the temperature drops 2 degrees every hour from 00:00 to 8:00. What is the temperature at 8 o'clock, if the temperature at midnight was 4°C ?

Problems to go further.

22.- A 10,000-liter water tank is full. Every day 2,000 liters enter and 3,000 liters leave. Indicate the moment when it will get empty.

23.- I have traveled from Motril, where the temperature was 11°C , to Granada, where the temperature is -3°C .

a) What is the temperature difference between these two cities?

b) If Granada is 734 m high and Motril just 34 meters, how many meters do we have to go up so that the temperature drops one degree Celsius?

24.- Monica gets on the elevator of her building and fiddles with all the buttons so that it goes up 5 floors, then goes down 3, goes up 5 again, goes down 8, goes up 10, goes up 5 and finally goes down 6, stopping on the seventh floor. On which floor did Monica enter the elevator?

25.- We have 200 grams of water. If we increase its temperature by 23°C and then we decrease it by 57°C , it will become ice at 7°C below zero. What is its state before this process, solid, liquid or gas? Justify

26.- The Colossus of Rhodes was a gigantic statue of the sun god, Apollo, which was placed at the entrance to the Greek port of Rhodes (it took 12 years to build it). It was one of the seven wonders of Antiquity. It was completed in 280 B.C. An earthquake destroyed it 56 years later.

a) In what year was the Colossus of Rhodes destroyed?

b) In what year did its construction begin?

27.- The temperature of the air drops as you rise in the atmosphere at a rate of 9°C every 300 meters. How high does an airplane fly, if the air temperature around it is -81°C and the ground's temperature is 27°C ?

28.- A building is made up of 4 basements, the ground floor and 11 more floors. The height of each basement is one meter greater than the height of each floor. The bottom of the 4th basement is at a height of -16 m. What is the height of the building?

29. A freezer truck was, when it was turned on, at a temperature of 25°C . After 4 hours its temperature was -7°C . How many degrees did it drop in 1 hour? [\[video\]](#)

30.- I have two accounts in the same bank, one with some money and the other in red numbers. The sum of their balances is €6, and their difference is €22. What is the balance of each account?

31.- The thermometer of a fridge indicates -20°C of temperature. If it is turned off, the temperature rises by 4°C every 2 hours. How long will it take inside the fridge to reach a temperature of 20°C ?

32. A snail falls off into a 10-meter-high well. He wants to get out, and it climbs 3 meters every day. But at night he falls asleep and slips, so that he falls two meters down. How many days does the snail need to get out of the well? [\[video\]](#)

(All my acknowledgment and thanks to the reference and help website

<https://selectividad.intergranada.com/>)

Solutions:

1. 4th floor
2. 1003 meters
3. 3437 €
4. 37°C
5. 76 years old
6. -22°C and +22°C
7. 11850 meters
8. 146°C
9. 13°C
10. On the ground floor
11. -2°C
12. 2°C
13. a) Mary b) Mary
14. -8°C
15. 9600 meters
16. 725 liters
17. 133 €
18. 960 €
19. 35 €
20. 80 meters deep
21. -2°C
22. 10 days
23. a) -14°C b) 50 meters
24. In the basement 1
25. Liquid
26. a) In 224 B.C.; b) In 292 B.C
27. 3600 meters
28. 36 m
29. 8°C every hour
30. In one -8 € and in the other +14 €.
31. 20 hours

32. 8 days