

Simplify each of the following expressions without a calculator.



1. $-4 + 9$

7. $-9 + (-10)$

2. $8 + (-8)$

8. $-4 - 4$

3. $-6 - (-8)$

9. $-3 + (0 - 9)$

4. $-7 + 8$

10. $5 - (-6)$

5. $6 - (-7)$

11. $4 + (-10)$

6. $-5 - 13$

12. $6 - 9$

13. We discussed hot and cold cubes in class. Write a different analogy that could work to explain why “minus a negative” is the same as adding.

14. Write two expressions equivalent to -12 , both involving subtraction.

Example: $-4 = -7 - (-3)$ or $-4 = 3 - 7$

15. Write two expressions equivalent to -75 , one involving addition and the other involving subtraction.

16. Amelia is hiking in Death Valley. She starts out at Badwater Basin, the lowest point of Death Valley at an elevation of 282 feet below sea level. She walks northward towards Telescope Peak in the Panamints and reaches an elevation of 2400 feet. How much did her altitude change?

17. Anna, Brooklyn, and Sydnee are playing golf. Anna ends with a score of -8. Brooklyn's score is -4. Sydnee scores +5. What is the difference between the scores of Anna and Sydnee?
(Remember that difference is the distance between two numbers.)

18. Mr. Johnson lives in North Dakota. When he leaves for work one wintry morning, the temperature is -4°C . By the time he comes home, the temperature has increased 25° . What is the temperature when he comes home?

19. Max had \$2. He found a quarter, but he lost a dollar in the vending machine. How much money does he have now?

20. Courtney has \$45 in her bank account. After she went shopping, she looked at her account again and she had -\$12. How much did she spend shopping?

21. The elevator started on the 8th floor, went up 5 floors, then went down 2 floors. What floor is it on now?

22. Nuclear submarines travel at random depths to avoid detection. The Officer of the Deck will avoid depths that are multiples of 100. If the USS Bluefish SSN-675 began cruising at a depth of -454 feet, then rose to a depth of 283 feet below sea level, how far did it rise?

**The one who falls and gets up is so much stronger than
the one who never fell.**