**Choose the letter of the correct answer. In all problems, E. NOTA means “none of these answers”.**

1. Andrew used this expression to calculate his place in the Chiles Skiing Tournament. Evaluate the expression below:



**A. 22 B. 26 C. 58 D. 61 E. NOTA**

2. Jack finds out that his average speed is 85.726 mph when doing an aerial move. Which digit is in the tenths place of his speed in mph?

**A. 2 B. 5 C. 7 D. 8 E. NOTA**

3. As Gabby is going down the ski slopes she finds this written in the snow:  . What is the value of *a*?

**A. 10 B. 11.25 C. 16 D. 20 E. NOTA**

4. Aidan uses an absolute value to calculate his distance from the skiing lodge! What is ?

**A. -12 B. 0 C. 12 D. 12 E. NOTA**

5. Aidan has stolen Davis’s skis!  In order for Davis to get them back he must simplify this expression: .  What is the answer?

**A.**  **B. **   **C.  D.  E. NOTA**

6. On one of the gates in the slalom, Hunter finds the number zero written on it.  To which of the following set(s) does zero belong to?

1. Whole numbers
2. Natural numbers
3. Prime numbers
4. Integer numbers

**A. I and III only B. II only C. I, II and III only D. II and IV only E. NOTA**

7. Kjetil André Aamodt of Norway is the most decorated Olympic alpine skier. The number of gold medals he has won is equal to eight less than three times the number of the gold medals he has won. How many gold medals has Aamodt won?

**A. 2 B. 3 C. 4 D. 8 E. NOTA**

8. The length and width of the Chiles Ski Lodge can be represented by the expressions (*x* + 2) and

(*x* – 5). Expand . What is the coefficient of x?

**A. -5 B. -3 C. 2 D. 3 E. NOTA**

9. When Kevin went to grab his ski boots out of his locker, he found that they were missing. In their place was a note with this equation on it: 7 = |x + 5|. What is the value of x?

**A. {-12, 12} B. {-12, 2} C. {-2, 2} D. 2 E. NOTA**

10. At Alan’s ski boots shop, Alan sells ski boots of all different shapes and sizes. He has ski boots pairs of sizes: . What is the mean of Alan’s ski boots’ sizes?

**A. 2 B. 3 C. 4 D. 8 E. NOTA**

11. Sarah Ann notices that the number of times she has won a slalom race is divisible by 3. Which of these numbers is NOT evenly divisible by 3?

**A. 51289947 B. 67374258 C. 71480538**

**D. 83771431 E. NOTA**

12. Cynthia is skiing like a pro when all of the sudden Joanna throws a snow-cube (not a snowball) at her. Cynthia saw the snow-cube coming, but was only able to mentally measure one of the edges of the snow-cube. The measurement she sees is 7 in. In cubic inches, what is the volume of the snow-cube?

**A. 21 B. 49 C. 294 D. 343 E. NOTA**

13. Amy always skis with a five digit number on the back of her coat. Victoria is trying to figure out the number, but can only see the first four digits, 9742\_ . Amy tells Victoria that her number is divisible by 12. What is the last digit of Amy’s number?

**A. 0 B. 2 C. 4 D. 8 E. NOTA**

14. The staff of the Rational Skiing Slope are only allowed to wear rational numbers on their shirts.  Which of the following numbers are rational?

I. π

II. 0

III.

**A. I only B. II only C. II and III only D. I, II, and III E. NOTA**

15. Andrew, Hannah, Amy, Tommy, and Aidan are standing in a line to go skiing. Tommy is directly behind Andrew, and Hannah is either directly in front or behind Amy. Aidan is exactly 2 people in front of Tommy, and Tommy is not last. Who is third in line?

**A. Aidan B. Amy C. Andrew D. Hannah E. NOTA**

16. Solve for *a* if:



**A. 1 B. 50 C. 99 D. 100 E. NOTA**

17. Brandon has constructed a ski course that can be modeled by a rectangle. This rectangle’s width is 13 and its length is represented by . If the rectangle’s area is 208, what is the value of *x*?

**A. 9 B. 11 C. 16 D. 17 E. NOTA**

18. While Jason skis down the mountain, he likes yelling patterns out loud. He says 1, 1, 2, 3, 5, 8, 13, but then gets stuck. What is the tenth number in the pattern?

**A. 28 B. 34 C. 55 D. 89 E. NOTA**

19. Hannah wanted to know what temperature it was at the ski slopes. Unfortunately, the only thermometer she could find was in °C. The thermometer reads -10 °C. What temperature is this in °F?

Hint : .

**A. -23 B. -13 C. 14 D. 50 E. NOTA**

20. Ski poles are used by skiers for balance and propulsion.  Kevin buys 3 bamboo poles and 5 aluminum poles for 49 dollars. Alberic buys 2 bamboo poles and one aluminum pole for 14 dollars. How much is one aluminum pole in dollars?

**A. 2 B. 3 C. 5 D. 8 E. NOTA**

21. Jennifer’s lucky number is 84. She decides that all positive whole number factors of 84 are also her lucky numbers. How many lucky numbers does Jennifer have, including 84?

**A. 9 B. 10 C. 11 D. 12 E. NOTA**

22. If , and , what is the value of a?

**A. 1.5 B. 3 C. 8 D. 16 E. NOTA**

23. Eric is 10 years older than Gary, his pet dog with magical skiing abilities. In four years, Eric will be twice Gary’s age. How old is Gary?

**A. 6 B. 10 C. 14 D. 16 E. NOTA**

24. The only thing that Tag likes more than the ski jump is scientific notation! What is expressed in decimal notation?

**A. 0.0000015 B. 0.015 C. 15 D. 1,500,000 E. NOTA**

25. The Jackson Hole Mountain Resort is often described as America’s scariest ski slope. Leon represents the ski slope as a right triangle with legs 500 feet and 1,200 feet. What is the hypotenuse of this triangle in feet?

**A. 1300 B. 1500 C. 1700 D. 600,000 E. NOTA**

26. Brandon and Andrew both have favorite numbers. Andrew’s number is greater than Brandon’s number. Townsend notes that both Brandon and Andrew’s number are prime. Aidan notes that the sum of the two numbers is also prime. What is Brandon’s favorite number?

**A. 3 B. 5 C. 7 D. 11 E. NOTA**

27. Whenever Jamie skis, he likes to divide fractions . However, this problem stumped him. If , what is the value of x?

**A.  B.**   **C. 12 D. 24 E. NOTA**

28. There are 10 boys and 20 girls on the Chiles ski team. If 20% of the boys have red ski boots and 50% of the girls have red ski boots, what percent of people of the total team have red ski boots?

**A. 30% B. 35% C. 40% D. 45% E. NOTA**

29. At the Cartesian ski course, skier’s paths can be represented by lines. Tommy skis in a path that can be represented by the line . If Hannah wants to ski in a path perpendicular to Tommy’s path, what would be the slope of the line representing her path?

**A. -3 B.  C.  D. 3 E. NOTA**

30. Cayle is trying to figure out the elevation of a slope by multiplying radicals. Simplify the expression : 

**A. 350 B. 420 C. 700 D. 840 E. NOTA**