

Cedar Ridge Math Tournament
6th grade test

1. The length of a rectangle is twice its width. The area is 32. Find the perimeter of the rectangle.
a. 36 b. 24 c. 12 d. 32 e. none of these

2. Find the probability of rolling a composite number when a fair six-sided die is rolled.
a. $\frac{1}{3}$ b. $\frac{2}{3}$ c. $\frac{1}{6}$ d. $\frac{1}{2}$ e. none of these

3. By how much does $2^2 + 3^2 + 4^2$ exceed the product of 2, 3, and 4.
a. 5 b. 6 c. 9 d. 19 e. none of these

4. Simplify: $5\frac{4}{5} \cdot \frac{4}{13} \cdot 6\frac{1}{4} \cdot \frac{5}{6}$
a. 12 b. $8\frac{1}{4}$ c. $8\frac{1}{3}$ d. $\frac{1}{3}$ e. none of these

5. What is 18% of 30% of 250?
a. 135,000 b. 13.5 c. 135 d. 1350 e. none of these

6. Two-fifths of the students at Cedar Ridge are in the sixth grade. If half of the students in sixth grade are boys, what fraction of the students are sixth grade boys?
a. $\frac{1}{2}$ b. $\frac{1}{5}$ c. $\frac{2}{5}$ d. $\frac{2}{3}$ e. none of these

7. Solve for x. $2b + 5c = 12$
a. 19 b. 11 c. 10 d. 1 e. none of these

8. Find the sum of the Greatest Common Factor (GCF) and the Least Common Multiple (LCM) of 45 and 30.
a. 90 b. 15 c. 105 d. 95 e. none of these

9. If A=the number of the sides of a octagon, and B= the number of sides of a hexagon, find $AB + B^3 - A$.
a. 264 b. 256 c. 58 d. 74 e. none of these

10. Simplify:

$$\frac{2}{3} \times 7 \frac{1}{3} \times 3 \frac{1}{3} \times 2 \frac{1}{3}$$

- a. 1 b. 14 c. 28 d. 7 e. none of these

11. After $2\frac{1}{8}$ has been simplified to an improper fraction in lowest terms, what is the denominator?

- a. 6 b. 15 c. 3 d. 17 e. none of these

12. Which of the following is equal to 0.0036?

- a. $\frac{36}{1000}$ b. $\frac{36}{100}$ c. $\frac{36}{60}$ d. $\frac{36}{1000}$ e. none of these

13. At a greenhouse, large plants cost \$7 and small plants cost \$4. Mrs. Bailey purchased a total of 20 plants, and paid with a \$100 bill. What is the maximum number of large plants that she bought?

- a. 3 b. 4 c. 5 d. 6 e. none of these

14. What is the sum of the positive odd factors of 30?

- a. 24 b. 72 c. 23 d. 9 e. none of these

15. Simplify:

$$\frac{2}{3} + \frac{2}{5} \times \frac{2}{3}$$

- a. $\frac{14}{15}$ b. $\frac{8}{45}$ c. $\frac{2}{5}$ d. $\frac{6}{11}$ e. none of these

16. Mrs. Schrenkel had a box of pens. She gave a fourth of them to Mrs. Bailey and then a third of the pens still in the box to Mrs. Simpson. She then had 8 pens left. How many pens were in the box to start with?

- a. 24 b. 20 c. 28 d. 16 e. none of these

17. Simplify:

$$-|-3+5|-2|-7| =$$

- a. -16 b. 16 c. -20 d. -12 e. none of these

18. What is the solution to the equation $4x = 23x - 59$?

- a. 4 b. 3.5 c. -1.2 d. 6 e. none of these

19. Find the median of the prime numbers between 40 & 60?

- a. 48 b. 47 c. 49 d. 45 e. none of these

20. Simplify:

$$\sqrt{80-16} + \sqrt{100+21} + 3^3$$

- a. 28 b. 101 c. 49 d. 97 e. none of these

21. Mrs. Bailey figured out that she could arrange 3 picture frames 6 different ways. She has decided to add 2 more picture frames to her arrangement. How many different ways could she arrange the picture frames now?
- a. 10 b. 30 c. 150 d. 120 e. none of these
22. How many perfect squares are there between 100 and 400?
- a. 9 b. 10 c. 11 d. 12 e. none of these
23. The measure of Angle C in the equilateral triangle ABC is the same as $2x+12$. Find the value of x.
- a. 12 b. 24 c. 36 d. 48 e. none of these
24. Mrs. Bailey notices that her car's gas tank is nearly empty. Gasoline costs \$1.59 a gallon. ABOUT how many gallons can she buy with a \$20 bill?
- a. 10 b. 30 c. 12 d. 20 e. none of these
25. Solve. $y - (-4) = 6 - 8$
- a. -6 b. 2 c. -2 d. 6 e. none of these

TIE BREAKERS

TIE BREAKER #1

At a birthday party, Alex gave 30 gel pens to her friends as prizes. Everyone got at least 1 gel pen. Six friends got just 1 gel pen each, 4 friends got 3 gel pens each for winning games, and the rest of the friends got 2 gel pens each. How many friends got 2 gel pens?

TIE BREAKER #2

Only two of the five school newspaper editors can represent the school at the state awards banquet. How many different combinations of two editors can be selected to attend the banquet?

TIE BREAKER #3

The bus driver for the math team drove 30 mph for 30 minutes and at 56 mph for one hour and fifteen minutes. How far did the math team travel?