

2004 Washington State Math Championship

Unless a particular problem directs otherwise, give an exact answer or one rounded to the nearest thousandth.

Mental Math - Grade 5

1. What is the volume of a cube with edge 6?
2. What is one-eighth of 112?
3. A twelve-sided die is tossed and a card is drawn from a standard deck. What is the probability of getting an even number on the die and a face card from the deck? (Write your number as a reduced fraction)
4. What is 6 factorial?
5. 16 squared: what is one-half of its square root?
6. Start with 17, triple it, subtract 2, and take the square root.
7. What is the slope between the points (-10, 4) and (6, -13)? Express your answer as a fraction.
8. What is the sum of the prime factorization of 525?
9. A cube with a volume of eight is combined with 26 others to form a larger cube. What is the surface area of the new, larger cube?
10. What is the sum of 78, 456, and 23?
11. How many million is 120000 times 400?
12. Radii of a circle cut it into 12 equal sectors. The central angle of each sector is how many degrees?
13. What is the difference between six-eighths and six-ninths?
14. What is seven-sixths of the difference between 36 and 12?
15. What is the sum of positive 54, negative 7, negative 101, and positive 32?
16. What is the combined volume of three cubes that have edge lengths of 1, 2, and 3?
17. What is $1/16$ to the $\frac{1}{2}$ power?
18. What is the perimeter of a square that has an area 16?
19. What is the perimeter of a regular octagon with a side length of 14?
20. What is the largest factor common to both seventy-five and ninety-nine?