

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?

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Mental Math - Grade 6

1. What is the perimeter of a square that has an area 16?
2. What is the perimeter of a regular octagon with a side length of 14?
3. What is the largest factor common to both seventy-five and ninety-nine?
4. What is the square root of 841?
5. What is seven-sixths of the difference between 36 and 12?
6. What is the sum of positive 54, negative 7, negative 101, and positive 32?
7. What is the combined volume of three cubes that have edge lengths of 1, 2, and 3?
8. What is the volume of a circular cylinder with height three and radius five?
9. What is the volume of a cube with edge 6?
10. What is one-eighth of 112?
11. 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)
12. What is 6 factorial?
13. What is the sum of 78, 456, and 23?
14. What is the product of 78 and 56?
15. What is the probability of rolling a sum of three with a pair of dice?
16. What is the radius of a circle with area 225π ?
17. What is the quantity $\frac{1}{3} + \frac{1}{7}$ multiplied by 21?
18. What is $\frac{1}{12}$ times 96?
19. What is the difference in the sum of the number of degrees in a square and the sum of the number of degrees in a triangle?
20. What is the difference between four cubed and seven squared?

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Mental Math - Grade 7

1. What is $\frac{1}{12}$ times 96?
2. What is the difference in the sum of the number of degrees in a square and the sum of the number of degrees in a triangle?
3. What is the difference between four cubed and seven squared?
4. Six hundred is sixty percent of what number?
5. What is the product of 78 and 56?
6. What is the probability of rolling a sum of three with a pair of dice?
7. What is 30% of one fourth of 84?
8. What is $\frac{1}{16}$ to the $\frac{1}{2}$ power?
9. What is the perimeter of a square that has an area 16?
10. What is the perimeter of a regular octagon with a side length of 14?
11. What is the largest factor common to both seventy-five and ninety-nine?
12. What is the square root of 841?
13. What is 6 factorial?
14. Subtract one-fourth from the product of 17 and 18. Express your answer as a fraction.
15. What is the square root of 196?
16. What is the sum of the prime factorization of 525?
17. 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?
18. What is the sum of 78, 456, and 23?
19. How many million is 120000 times 400?
20. Radii of a circle cut it into 12 equal sectors. The central angle of each sector is how many degrees?

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Mental Math - Grade 8

1. What is the sum of 78, 456, and 23?
2. How many million is 120000 times 400?
3. Radii of a circle cut it into 12 equal sectors. The central angle of each sector is how many degrees?
4. What is the difference between six-eighths and six-ninths?
5. Subtract one-fourth from the product of 17 and 18. Express your answer as a fraction.
6. What is the square root of 196?
7. What is the radius of a circle with area 225π ?
8. What is the quantity $\frac{1}{3} + \frac{1}{7}$ multiplied by 21?
9. What is $\frac{1}{12}$ times 96?
10. What is the difference in the sum of the number of degrees in a square and the sum of the number of degrees in a triangle?
11. What is the difference between four cubed and seven squared?
12. Six hundred is sixty percent of what number?
13. 16 squared: what is one-half of its square root?
14. Start with 17, triple it, subtract 2, and take the square root.
15. What is the slope between the points $(-10, 4)$ and $(6, -13)$? Express your answer as a fraction.
16. What is the volume of a circular cylinder with height three and radius five?
17. What is the volume of a cube with edge 6?
18. What is one-eighth of 112?
19. 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)
20. What is 6 factorial?