

1. If the number 150 is increased by 40%, and if that result is then decreased by 40% what is the final result?	1. 126
2. What is the length in inches of a diagonal of a 3 by 4 inch rectangle?	2. 5 in
3. What is the perimeter of a regular octagon if each of its sides is two units in length?	3. $p = 16$
4. A travel agency wants to take 65 people on a tour of Bricktown in Oklahoma City. The tour vans carry 14 passengers apiece. How many tour vans will they need?	4. 5 vans
5. $1.75 m + 1225 cm + 0.01 km$ is equal to how many meters?	5. 23 meters
6. What is the square root of $6 \times 10 \times 15$?	6. 30
7. How many odd numbers are there between 20 and 100?	7. 40 numbers
8. What number is $\frac{3}{5}$ of the way from 21 to 66?	8. 48
9. Evaluate: $3^3 \times 5^0 \times 7^{-2}$	9. 0.551 or $\frac{27}{49}$
10. Simplify: $\left(\frac{1}{4}\right)^{-3}$	10. 8
11. Simplify $\frac{1}{2 + \frac{1}{2 + \frac{1}{2}}}$	11. 0.417 or $\frac{5}{12}$
12. Find x such that $x + \frac{x}{2} + \frac{x}{4} = 56$	12. $x = 32$
13. Find a such that $2a^2 = 200$.	13. $a = \pm 10$
14. Assume $a = 5$ and $b = 7$ find the value of: $a^7 b^{-8} (a^{-4} b^5)^2$	14. 9.800 or $\frac{49}{5}$
15. If $x^2 \leq 16$, what is the sum of all the positive integers that satisfy the inequality?	15. 10
16. What is ratio of the area of triangle ABC to triangle ABD? 	16. 2

17. If $300 \leq a \leq 400$ and $399 \leq b \leq 1200$, then the largest value of the quotient $\frac{b}{a}$ is	17. 4
18. If my mom is 38 and my dad is 44, after how many years will the sum of their ages equal 100?	18. 9 years
19. What is largest integer that will divide both 126 and 336 evenly?	19. 42
20. Express as a fraction: $0.\overline{2} + 0.\overline{01}$	20. $\frac{23}{99}$
21. A rectangle has sides $3 \times a$ long and $\frac{a}{3}$ wide. If $4 \times a = 40$ inches, find the area of the rectangle in square inches.	21. 100 in^2
22. Jenny rolls a pair of standard dice and wants to get the sum of the dots to equal 6. What is the probability she will succeed?	22. 0.139 or $\frac{5}{36}$
23. A fisherman is asked "What is the price of a fish?" He answers: --- The price of the fish's body is the price of its head and tail together. --- The tail's price is twice the head's price. --- The head is \$1.50. What is the price of the fish?	23. \$9.00
24. If you have five pairs of pants, three pairs of shoes, and five shirts of different colors, how many different outfits will you have available if every outfit must include pants, shoes, and a shirt?	24. 75 or 225
25. Find the unit digit in 2009^{2009}	25. 9
26. Given a four digit integer of the form 19xy , what should x, and y be so that 19xy can be divided by 7 and 9?	26. $x = 5$ $y = 3$
27. Factor: $6a^2 + 7ab - 10b^2$	27. $(6a-5b)(a+2b)$
28. A class has 58 students. This semester 36 students were in math club; 29 students were in physics club, 5 students were in neither math club nor physics club. How many students were in both math club and physics club?	28. 12
29. What are the solutions of this equation? $ x-1 + x-3 = 4$	29. 0 and 4
30. What is the 6 th term in the sequence 1, 2, 5, 12, 29. . .	30. 70
Tie Breaker	Tie Breaker
The remainders of the division of the natural numbers a, b and c by 8 are 5, 6, and 7 respectively. What is the remainder of the division of $7a + 6b + 5c$ by 8?	2