- 1. If 3 blibs are worth 1 blob, and 7 blobs are worth two blurbs, how many blurbs are 42 blibs worth?
 - a. 4 lol
- 2. How many triangles are in this figure? (Some triangles may overlap other triangles.)



- a. 5
- 3. Aastha is sixty-four inches tall. She stands next to a pole 7 feet tall, which casts a shadow 81 inches long. How long is Aastha's shadow?
 - a. 72
- 4. What is the sum of the mean, median, and mode of the numbers 1, 1, 3, 7, 0, 2, and 4?a. 6
- 5. Harry has 3 sisters and 5 brothers. His sister Harriet has S sisters and B brothers. What is the product of S and B?
- a. 12 6. If $\frac{3}{5} = \frac{M}{45} = \frac{60}{N}$, what is M + N? a. 127
- 7. A 4 × 4 × 4 cubical box with an open top contains 64 identical small cubes that exactly fill the box. How many of these small cubes touch a side or the bottom of the box?
 a. 52
- 8. There are 20 students in Mr. Matuschek's math class. On the day of a test, only 15 of the students were present, and they averaged an 80%. The next day, 4 of the absent students averaged 75%. On the third day, the final student takes the test. The overall average of all 20 students is now 80%. What did the final student score?
 - a. 100
- How many ways are there to make 22 cents using only pennies, nickels, and dimes?
 a. 9 I think?
- 10. From a starting number, Cindy was supposed to subtract 3, and then divide by 9, but instead, Cindy subtracted 9, then divided by 3, getting 43. If the correct instructions were followed, what would the result be?
 - a. 15
- 11. Three A's, three B's, and three C's are placed in the nine spaces so that each row and column contain one of each letter. If A is placed in the upper left corner, how many arrangements are possible?



- 12. Ms. Osborne asks each student in her class to draw a rectangle with integer side lengths and a perimeter of 38 units. All of her students calculate the area of the rectangle they draw. What is the difference between the largest and smallest possible areas of the rectangles?
 - a. 343
- 13. Given a triangle with side lengths 15, 20, and 25, find the triangle's smallest altitude.a. 12
- 14. What is the area of the shaded region BEDC in parallelogram ABCD?



- 15. Jack had a bag of 128 apples. He sold 25% of them to Jill. Next he sold 25% of those remaining to June. Of those apples still in his bag, he gave the shiniest one to his teacher. How many apples did Jack have then?
 - a. 71
- 16. What is the difference between the sum of the first 2003 even counting numbers and the sum of the first 2003 odd counting numbers?
 - a. 2003
- 17. Four circular, identical pineapple slices are placed externally tangent to each other and internally tangent to the pizza. What fraction of the pizza is covered by pineapple?



- a. 12-8sqrt(2) (????)
- 18. If the pattern in the diagram continues, what fraction of the interior would be shaded in the eighth triangle?



a. 7/16

- 19. How many non-congruent triangles with perimeter 7 have integer side lengths? a. 2
- 20. The sum of three numbers is 20. The first is four times the sum of the other two. The second is seven times the third. What is the product of all three?

- 21. The symbolism $\lfloor x \rfloor$ denotes the largest integer not exceeding x. For example, $\lfloor 3 \rfloor = 3$, and $\lfloor 9/2 \rfloor = 4$. Compute $\lfloor \sqrt{1} \rfloor + \lfloor \sqrt{2} \rfloor + \lfloor \sqrt{3} \rfloor + \cdots + \lfloor \sqrt{16} \rfloor$. a. 38
- 22. Using the digits 1, 2, 3, 4, 5, 6, 7, and 9, form 4 two-digit prime numbers, using each digit only once. What is the sum of the 4 prime numbers?a. 190
- 23. A regular octagon ABCDEFGH has an area of one square unit. What is the area of the rectangle ABEF?



a. ½

24. For how many positive integers n less than or equal to 24 is n! evenly divisible by $1+2+\ldots+n?$

a. 16

25. The first term of a sequence is 2005. Each succeeding term is the sum of the cubes of the digits of the previous term. What is the 2005th term of the sequence?

a. 250