

Franklin Math Bowl

Eighth Grade Exam

2002

- 1.204×10^{12} is closest in value to one
A) million. B) billion. C) trillion. D) quadrillion.
- What percent of 110 is 440?
A) 4% B) 40% C) 400% D) 25%
- Simplify $-[-(-3)] + (-3) + m^2$ where m equals the cube root of negative eight.
A) -2 B) 4 C) -10 D) -4
- Ninety-six percent of what number is 221,184?
A) 212,336.64 B) 222,234 C) 223,200 D) 230,400
- Bill is older than Becky. Becky is younger than Bob. Bob is older than Barbara. Who is second oldest?
A) Bill B) Becky C) Barbara D) not possible to tell
- Simplify: $-2 - 1[-\sqrt{49} - \sqrt{36} (0^4 - 1^6) - 1]/2$
A) -5 B) -6 C) 3 D) -1
- If Desiderious put \$5000 in the bank at 6% interest compounded annually, how much interest would he earn after 4 years?
A) \$6312.38 B) \$5955.08 C) \$1312.38 D) \$1955.08
- If the ratio of the number Xerxes caught to the number Zimri caught was two to seven, and the total number caught was 1908, how many more did Zimri catch than Xerxes?
A) 1060 B) 1050 C) 1484 D) 1030
- Twenty-one thousand forty came to see the event. If a maximum of 36 could be seated in a bus, how many buses were required to carry them away?
A) 584 B) 585 C) 594 D) 595

10. Evaluate $-a^b - b^{-a}$ if $a = -2$ and $b = -3$.

- A) $-71/8$ B) $-70/8$ C) $65/8$ D) $66/8$

11. Find the next number in the sequence 9017, 8998, 8977, 8954.

- A) 8939 B) 8979 C) 8929 D) 8999

12. The reciprocal of 98.6 is $(1/(5/x))^{-1}$. $x =$

- A) 489 B) 491 C) 493 D) none of these

13. The number $3/7$ of the way from 28.2 to the square root of 3481 is

- A) 38.4 B) 39.4 C) 40.4 D) 41.4

14. When the bell tolled, 370 were seen perambulating. If 290 were not seen, what fraction of the total was seen?

- A) $37/56$ B) $37/66$ C) $29/66$ D) $31/66$

15. A rectangular solid (shoebox) has dimensions 4 high, 6 wide, and 7 deep. How long is a diagonal through the interior of the solid?

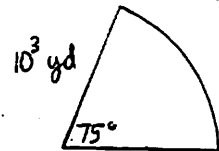
- A) $\sqrt{98}$ B) $\sqrt{102}$ C) $\sqrt{85}$ D) $\sqrt{101}$

16. Using $e = 2.718$ and $\pi = 3.142$, by what approximate percent does e^π exceed π^e ?

- A) 0.03% B) 2% C) 3% D) 3.9%

17. How many gallons of paint would be needed to apply two coats to one side of the sector shown if one gallon covers 350 ft²?

- A) 14,830 B) 16,830 C) 31,660 D) 33,660



18. How many even whole numbers comprise the solution to a situation in which twice a number equals the number squared?

- A) none B) one C) two D) more than two

19. Two blue marbles and three white marbles are in a bowl. What is the probability of picking a blue marble out of the bowl on the first draw (and not returning it to the bowl) and a white marble on the second draw?

- A) $1/6$ B) $3/5$ C) $3/10$ D) $1/2$

20. The average of the five numbers was 1847. The first four numbers were 234, 468, 1029, and 311. What was the fifth number?

- A) 7913 B) 6804 C) 6084 D) 7193

21. Two cars leave at the same time from the same starting point traveling "down and back." Car A goes 60 mph for 2 hr then returns on the same road going 40 mph. At what constant speed, in mph, would car B need to travel to finish the course at the same time as car A?

- A) 45 B) 46 C) 48 D) 50

22. Two motorcycles 100 mi apart head toward each other, each going 50 mph. An incredible fly, initially stationed on one of the motorcycles, starts flying toward the other motorcycle at 100 mph. Upon reaching the other motorcycle, he instantly reverses direction and heads toward the first motorcycle. This back and forth motion continues until he is crushed. How many miles does the fly travel?

- A) 50 B) 100 C) 150 D) 200

23. Maher-Shalel-Hash-Baz can assemble w widgets in t min. How many can he assemble in k periods where one period is $2/3$ hr?

- A) $40kw/t$ B) $40kwt$ C) $40wt/k$ D) $60kwt$

24. The total (exterior) surface area of a soup can of diameter $5/2$ in and height 4 in is _____ in^2 .

- A) 10π B) $105\pi/8$ C) $185\pi/16$ D) $45\pi/2$

25. It's noon. The hands of a clock will first form a right angle at the approximate time of 16 min and _____ sec past noon.

- A) 20 B) 22 C) 24 D) 26