1. What is the minimum number of lines needed to join 26 eggs (points)?

(A) 0   (B) 1   (C) 25   (D) 26   (E) NOTA

2. Sam likes to have a square table to eat his green eggs and ham, whose diagonal is half of the length of the diagonal of a square whose area is 16. What is the area of Sam's table?

(A) 4   (B) 8   (C) 12   (D) 16   (E) NOTA

3. Train carriage A, B, C, D are all on the same straight track (in that order). The distance from carriage C to carriage D is half of the distance from carriage A to carriage B and a third of the distance from B to C. If the distance from carriage A to carriage C is 10, what is the distance between carriages C and D?

(A) 2   (B) 3   (C) 4   (D) 5   (E) NOTA

4. If the length of the sides of a rectangle are the roots of $x^2 - 32x + 256$. What is the area of the rectangle?

(A) 256   (B) 224   (C) 36   (D) 51   (E) NOTA

5. Sam found the following statements in a book: "If you like green eggs and ham, then you are a mouse. If you are a mouse, then you are small." Is the statement: "If you like green eggs and ham, then you are small" correct from the Law of Syllogism?

(A) Yes   (B) No

6. Triangle ABC has points $A(-4, 0)$,$B(6, 0)$, and C lies on line $y = 5$. What is the largest possible area of ABC?

(A) Infinity   (B) 10   (C) 25   (D) 50   (E) NOTA

7. A mouse on the point (-3, -2) is trying to get to a piece of cheese at coordinates (3, 6). How far does it have to travel assuming that it travels the shortest distance?

(A) 6   (B) 8   (C) 10   (D) 12   (E) NOTA

8. Sam has agreed to eat green eggs and ham in a box with dimensions of 3,5, and 7. What is the diameter of the largest sphere that can fit into this box?

(A) 105   (B) 7   (C) 5   (D) 3   (E) NOTA

9, Lines AB and CD are parallel lines. $\angle CAD$ is a 45 degree angle and $\angle CED$ is a right angle. What is $\angle ECA + \angle EDA$?
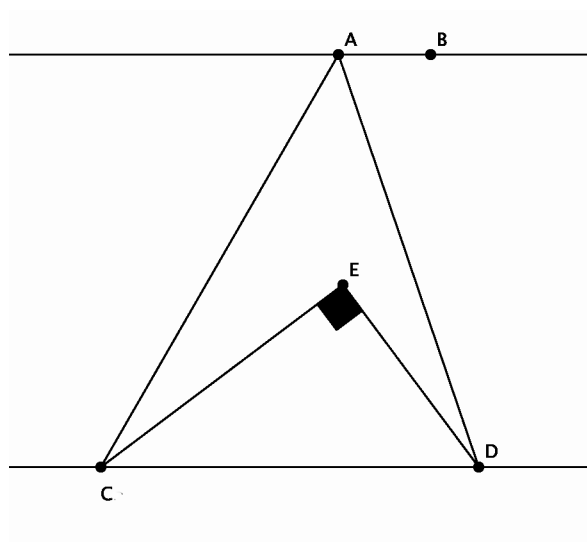
(A) 135   (B) 75   (C) 60   (D) 55   (E) NOTA

10. Sam-I-am has bought a giant plate for Sam to eat green eggs and ham on. If the circumference of the plate is 8π, what is the area?

(A) 16π (B) 8π (C) 4π (D) 2π (E) NOTA

11. If the area of a square is $j^2 + 4j + 4$, then what would be the length of one side?

(A) $|j + 2|$ (B) $j + 2$ (C) $j - 2$ (D) $|j - 2|$ (E) NOTA

12. Sam-I-am decided to cut out pieces of ham from a square piece. He decided to use the angle trisectors as guidelines. If he found out that the length of one angle trisector was 6, then what was the area of the original ham?

(A) 9   (B) 18   (C) 27   (D) 36   (E) NOTA

13. While reading a book, the fox saw a sequence that looked like this: 1,1,2,3,5,8,13... Unfortunately, the rest of this infinite sequence was not written down in the book. The fox wants to know what the 10th term is. What is the 10th term of this sequence?

(A) 21   (B) 34   (C) 55   (D) 89   (E) NOTA

14. A rhombus is made out of four $3 - 4 - 5$ right triangles. What is the area of the rhombus?

(A) 60   (B) 48   (C) 24   (D) 12   (E) NOTA

15. What is the definition of a point?

(A) A place to eat ham   (B) Undefined   (C) A dot   (D) A place   (E) NOTA

16. Sam only likes to eat green eggs inside a triangular house. If the triangular house has 3 and 4 as two of its sides, what could be the third one?

(A) 7   (B) 1   (C) $\sqrt{3}$ (D) $\sqrt{63}$ (E) NOTA

17. In the figure below, lines BC intersects ED at A. If $\angle CAD$ is 70 degrees, what is $\angle BAD + \angle EAC$?

(A) 90   (B) 140   (C) 180   (D) 220   (E) NOTA

18. What is the equation of the line connecting $(-3, 2)$ and $(-1, 1)$?

(A) $-x - 2y = -1$ (B) $x + 2y = -1$ (C) $x - 2y = 1$ (D) $x - 2y = -1$ (E) NOTA

19. Square $ABCD$ has semicircle with diameter AB. If $EG= 4$ and $GF = 9$, then what is the length of a side of $ABCD$?

(A) 8   (B) 10   (C) 11   (D) 12   (E) NOTA

20. Sam-I-am decided to cut out a pentagon from a rectangle to make a table. The pentagonal table's dimensions are 16, 12, 13, 5, 8 (not necessarily is this order). What is the area of the pentagon?

(A) 180   (B) 186   (C) 192   (D) 198   (E) NOTA

21. Which of the following <u>can not</u> be sides of a triangle?

   (A) 3-4-5   (B) 1.01-4-5   (C) .99-4.02-5   (D) 1-1.5-2   (E) NOTA
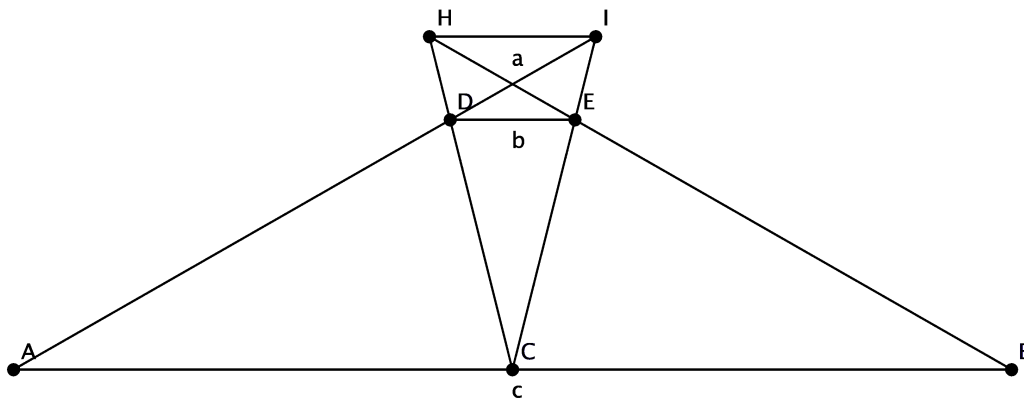
22. Three lines lie on a plane, what is the smallest number of regions the plane can be divided by the lines?

   (A) 0   (B) 1   (C) 2   (D) 3   (E) NOTA

23. Triangles ABC and DEF are similar. If $\angle B = 50$ and $\angle F = 30$, then what is $\angle A + \angle E$?

   (A) 30   (B) 50   (C) 80   (D) 150   (E) NOTA

24. Lines a, b, and c are parallel. HEB is collinear, and so is IDA. If $a = 4$ and $b = 3$, then what is c?

   (A) 12   (B) 18   (C) 26   (D) 30   (E) NOTA

25. Triangle ABC has altitudes AD and BE. If $AD = 8, BC = 5$ and $AC = 10$, then what is the length of BE?

   (A) 2   (B) 4   (C) 5   (D) 8   (E) NOTA

26. What is the area of a regular polygon given that its semiperimeter is 5 and its apothem is 12?

   (A) 12   (B) 30   (C) 60   (D) 120   (E) NOTA

27. Circle O has tangents CB and CD with $\angle C = 60$ and points B and D on the circle. If the radius of circle O is 5, what is the area of $ODCB$?

(A) $\frac{25\sqrt{3}}{2}$ (B) $25\sqrt{3}$ (C) 25   (D) 50   (E) NOTA

28, Sam has agreed to play a dart game. The board will be a circle inscribed within a square of side length 232. If Sam hits the area that is in the square but outside the circle, he won't have to eat ham. What is the probability that Sam won't have to eat ham assuming he always hits inside the square.

(A) $1 - \frac{\pi}{4}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{2}$ (D) $\frac{\pi}{3}$ (E) NOTA

29. How many sides does a pentadecagon have?

(A) 5   (B) 15   (C) 25   (D) 105   (E) NOTA

30. What is the shape of an Olympics medal?

(A) Square   (B) Blob   (C) Pentagon   (D) Circle   (E) NOTA