PREPARATORY TEST 2007

Pythagoras (Grade 6) – Fibonacci (Grade 5)
Byron-Germain (Grade 4)

1. $(2 + 5) \times (3 + 4) = ?$

   A) 14   B) 49   C) 21   D) 28   E) 35

2. I have 2 quarters and 3 dimes. I have a total of

   A) 95¢   B) 55¢   C) 90¢   D) 70¢   E) 80¢

3. Each angle of a rectangle measures

   A) 180°   B) 80°   C) 100°   D) 90°   E) 60°

4. The value of N in the equation: $48 = 2 \times 2 \times 2 \times N$ is

   A) 8   B) 2   C) 6   D) 3   E) 4

5. The perimeter of a rectangle is 20 cm. Its width is 4 cm. Its length is

   A) 10 cm   B) 6 cm   C) 5 cm   D) 8 cm   E) 12 cm

6. Which of the following fractions is equivalent to 1/5?

   A) 4/20   B) 5/15   C) 2/9   D) 2/11   E) 4/14

7. The sum of all the prime numbers between 1 and 10 is

   A) 17   B) 15   C) 18   D) 26   E) 27

8. The product of three consecutive natural numbers is 120. What is their sum?

   A) 13   B) 17   C) 16   D) 15   E) 14

9. The number of faces of a pentagonal pyramid plus its number of vertices is equal to

   A) 13   B) 11   C) 12   D) 14   E) 15

10. Which of the following numbers leaves a remainder of 3 when divided by 5 or 7?

    A) 10   B) 31   C) 28   D) 38   E) 33

11. At breakfast this morning, we served 1 000 ml of orange juice to 10 people. Approximately how many millilitres of juice would we need to serve 30 people?
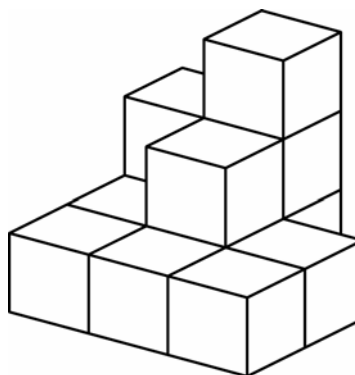
    A) 3 500 ml   B) 20 000 ml   C) 30 000 ml   D) 2 000 ml   E) 3 000 ml

12. If the following numbers: 7, 11, 5, 6, and 12 are placed in increasing order, the middle one will be

    A) 7   B) 11   C) 12   D) 6   E) 5

13. How many blocks in the pile (made of 12 blocks) are completely hidden?

    A) 1   B) 2   C) 3
    D) 4   E) 5

14. How many factors of 36 are odd?

    A) 3   B) 4   C) 5
    D) 6   E) 7

15. How many rectangles (of any size) are there in the diagram?

    A) 10   B) 9   C) 7
    D) 8   E) 11

16. A 2-digit natural number and a 3-digit one are multiplied together. Which of the following could not represent their product?
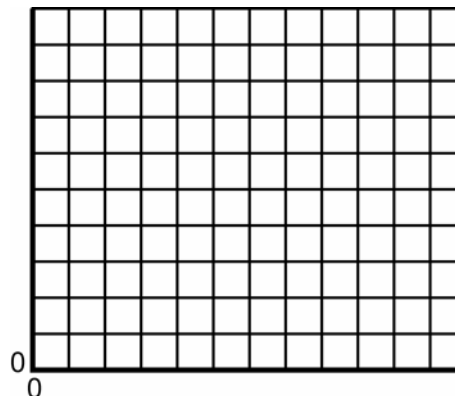
    A) 48 000   B) 101 700   C) 2 200
    D) 89 100   E) 21 000

17. The LCM of 12 and 16 is

    A) 72   B) 96   C) 48
    D) 64   E) 36

18. Join the points represented by the following set of ordered pairs: A (2 , 6), B (5 , 8), C (8 , 6), and D (5 , 4). Polygon ABCD is a

    A) trapezium   B) rectangle
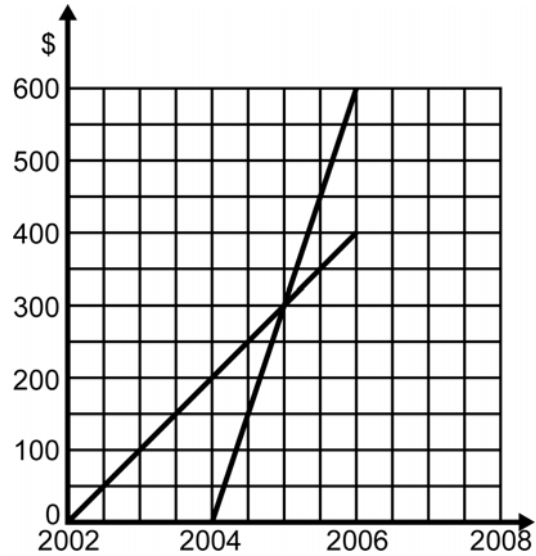   C) square   D) triangle
    E) rhombus

19. Which of the following is a multiple of 2, 3, and 5?

    A) 140   B) 36   C) 55   D) 120   E) 20

20. A car is moving at a speed of 60 km/h. What distance does it cover in 4 minutes?

A) 5 km   B) 20 km   C) 2 km   D) 4 km   E) 400 m

21. The graph shows the money saved by Mathew and Mathilda. Mathew started saving in 2002, Mathilda in 2004. How many months did it take her to save $150?
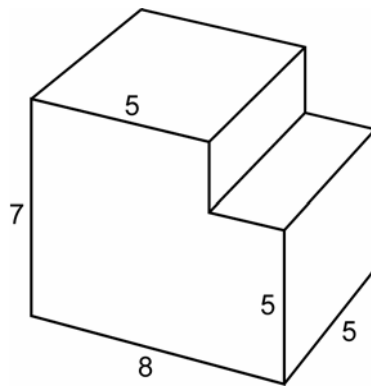
A) 1 month   B) 2 months
C) 3 months   D) 4 months
E) 6 months

22. There are 52 cards in a deck of playing cards. You pull out a card from the deck without looking. What is the probability of pulling out a black ace?

A) 1/26   B) 1/13   C) 2/13
D) 1/12   E) 2/26

23. All the measures in the diagram are in centimetres. What is the total area of this rectangular solid?

A) 230 cm^2 B) 240 cm^2 C) 250 cm^2
D) 255 cm^2 E) 260 cm^2

24. A perfectly round wheel with a radius of 7 cm rolls (without sliding) over a distance of 88 cm. How many revolutions does it make?
(C = 2 x π x R and π = 22/7)

A) 1   B) 1.5   C) 2
D) 3   E) 2.5

25. The maximum number of points at which 3 straight lines can intersect is 3. What is the maximum number of points at which 4 straight lines can intersect?

A) 3   B) 4   C) 5   D) 6   E) 7

26. Which of the following polygons has the most lines of symmetry?

A) rhombus   B) square   C) parallelogram
D) rectangle   E) equilateral triangle

27. Find the largest natural number smaller than 100 that is divisible by both 12 and 16. What is the sum of its digits?

A) 18   B) 9   C) 20   D) 15   E) 17

28. I am thinking of a number. I add 5 to it, then I multiply by 3, finally, I subtract 5 and get a result of 22. The number is

A) 3   B) 4   C) 5   D) 2   E) 6

29. The fraction 1/6 is 1/2 of 1/3. The fraction 1/3 is 1/4 of

A) 2/5   B) 3/2   C) 1/12   D) 4/3   E) 3/4