Quant Test 29

1. A new flag is to be designed with six vertical stripes using some or all of thecolours yellow, green, blue and red. Then, the number of ways this can be done such that no two adjacent stripes have the same colour is

- 12x81
- 16x192
- 20x125
- 24x216
- 26x125
- Skip this question

Directions for Questions from 2 to 3:

$$f_1(x) = \begin{cases} x & 0 \le x \le 1 \\ 1 & x \ge 1 \\ 0 & \text{Otherwise} \end{cases}$$

$$f_2(x) = f_1(-x) \quad \text{for all } x$$

$$f_3(x) = -f_2(x) \quad \text{for all } x$$

$$f_4(x) = f_1(-x) \quad \text{for all } x$$

2. How many of the following products are necessarily zero for every x: f 1(X) f 2(x), f 2 (X) f 3 (x), f 2 (x) f 4 (x).

- 0
- 1
- 2
- 3
- 4
- Skip this question

3. Which of the following is necessarily true?

- f 4 (x) = f1 (x) for all x
- f 1(X)= -f 3 (-x) for all x
- f 2 (-x) = f 4 (x) for all x
- f 1(X) +f 3 (x) =0 for all x
- f 1(X) - f 3 (x) =0 for all x
- Skip this question

4. S1 and S2 are two sets of parallel lines. The number of lines in S1 is greater than the number of lines in S2. They intersect at 12 points. The number of parallelograms that S1 and S2 may form is

- 12 or 6
- 8 or 4
- 18
- 18 or 15
- 22
- Skip this question

5. If $3^p=4^q=12^r$, then (p + q) r is equal to

- pq
- qr

- pr
- pqr
- None of these
- Skip this question

6. An army code consists of 4 letters, the first two of which are numbers and the last two are alphabets. Find the total number of codes that can be generated.

- 84656
- 60840
- 56346
- 67600
- 86756
- Skip this question

7. When the air-conditioner is on, a typist can type X pages per hour. However, when the air-conditioner is off, she can type at 65 % of the earlier efficiency (when the air-conditioner is on). How many hours would she take to type out 575 pages when the air-conditioner is off?

- 375.4 X
- 884.6 X^{-1}
- 36.5 X
- 454.3 X^{-1}
- None of these
- Skip this question

8. The perimeter of an isosceles triangle is A cm and each of the two equal sides is B cm longer than the third unequal side. Which of the following is the length of the equal sides?

- (A - B)/3
- A + A/B
- (A+B)/3
- A/3 = B
- None of these
- Skip this question

9. In an automated plant assembly line, the rate of rejection of components was 10% on July 1st and 6% on July 2nd. The combined rate of rejection for the two days was 9%. The ratio of production volumes on July 1st and on July 2nd is

- 2 : 1
- 3 : 2
- 3 : 1
- 2:5
- None of these
- Skip this question

10. There are nine distinct numbers of which five numbers are positive and four numbers are negative. Three numbers are chosen at random and the product of these numbers is found. How many of these products are positive?

- 48
- 300
- 40
- 90
- None of these
- Skip this question

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