



# DELHI PUBLIC SCHOOL, CHANDIGARH

Summative Assessment-II, Session 2013-14

Class : VII, Subject : Maths (Sample Paper)

Time : 3 hours

MM : 90

## General Instructions:

- 1) All questions are compulsory.
- 2) Section A carries 6 marks, one mark for each part.
- 3) Section B carries 10 marks, one mark for each part.
- 4) Section C carries 12 marks, two marks for each question.
- 5) Section D carries 32 marks, four marks for each question.
- 6) Section E carries 30 marks, five marks for each question.

## Section A

Q.1 Choose the most appropriate option for the following:

- a) The order of rotational symmetry of English alphabet S is
- |        |       |
|--------|-------|
| i) 1   | ii) 2 |
| iii) 0 | iv) 3 |
- b) The constant term in the expression  $a^3 - 4a - 5$  is
- |        |        |
|--------|--------|
| i) -5  | ii) 5  |
| iii) 4 | iv) -4 |
- c) If the length of parallelogram is 'a' metres and its height is 'b' metres, then its area is
- |                       |                      |
|-----------------------|----------------------|
| i) $a^2b^2$ sq metres | ii) $2ab$ sq. metres |
| iii) $ab$ sq. metres  | iv) $ab$ metres      |
- d) 0.9 as percentage can be written as
- |         |                    |
|---------|--------------------|
| i) 90%  | ii) 0.009%         |
| iii) 9% | iv) none of these. |
- e) 10 is 5% of which number?
- |          |        |
|----------|--------|
| i) 2     | ii) 20 |
| iii) 200 | iv) 50 |
- f) If the perimeter of a square is 16cm, then its side is
- |          |          |
|----------|----------|
| i) 4cm   | ii) 64cm |
| iii) 8cm | iv) 32cm |

## Section B

Q.2 Fill in the blanks:

- i) Two circles are congruent if they have same \_\_\_\_\_.
- ii)  $1 \text{ mm}^2 = \text{_____ dm}^2$
- iii) Equilateral triangle has \_\_\_\_\_ lines of symmetry.
- iv) If  $q = -1$ , then the value of  $5 - 2q$  is \_\_\_\_\_.
- v) A square has \_\_\_\_\_ order of rotational symmetry.
- vi) \_\_\_\_\_ is a like term of  $5a^2bc^3$ .
- vii) The ratio of 40m to 400cm is \_\_\_\_\_
- viii) A \_\_\_\_\_ can have many values. It is not a fixed value.
- ix) The area of a circle with radius 1 cm is \_\_\_\_\_
- x) Which is greater? 1:3 or 3:5 \_\_\_\_\_

## Section C

- Q.3 A 7 m road runs along a circular track of radius 49m. Find the area of the road.
- Q.4 Add:  $8a - 6ab + 5b$ ,  $-6a - 8b - ab$  and  $3b - 4a + 2ab$ .
- Q.5 A train covers 180 Km in three hours. How much time will it take it to cover 240 Km at the same speed?
- Q.6 A machine is bought for ₹ 2200 and sold for ₹ 3300. Find the gain or loss percent?
- Q.7 Find the perimeter of the square whose area is  $49 \text{ m}^2$ .
- Q.8 Give two examples of geometrical figure which has one line of symmetry but no rotational symmetry.

## Section D

- Q.9 Simplify:  
 $(3x - y)(3x - y + 5) - (x + 3y)(3 - x - 4y)$
- Q.10 By selling an article for ₹ 400 a man gains ₹ 25. At what price should he sell the article to gain 20%?
- Q.11 A man borrowed ₹ 4200 from a bank for 3 years at 18% p.a. Find the interest and the amount he will have to pay after the stipulated time.
- Q.12 Prove that a diagonal of a parallelogram divides the parallelogram into two congruent triangles.
- Q.13 Construct an isosceles triangle PQR with  $QR = PQ = 5.8 \text{ cm}$  and  $\angle Q = 75^\circ$ . Also, draw a perpendicular from P on QR.
- Q.14 The area of a triangular field is equal to that of a square field whose each side measures 70 m. Find the side of a triangle whose corresponding altitude is 98m.
- Q.15 The height of a parallelogram is half its base. If the area of the parallelogram is  $200 \text{ m}^2$ , determine its base and height.
- Q.16 What should be taken away from  $4a - 12ab - 5b$  to obtain  $-2a - 11ab$ ?

### Section E

Q.17 Add  $2x^2 - 3xy + 2y^2$  to the difference of  $2x^2 - 5y^2$  and  $x^2 + 2y^2$

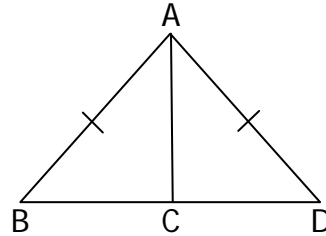
Q.18 A man sold his scooter for ₹ 8000 and lost 20%. For what amount he should have sold it to gain 20%?

Q.19  $\triangle ABC$  is an isosceles triangle with  $AB=AC$ .  $AD$  is the median on the side  $BC$ . Prove that

i)  $BD=DC$

ii)  $\triangle ADB \cong \triangle ADC$

iii)  $\angle BAC = \angle CAD$ ?



Q.20 Construct a right angled triangle whose hypotenuse is 5.6 cm and angle is  $30^\circ$ .

Q.21 Two cross roads, each of width 3m, run at right angles through the centre of a rectangular park of length 60 m and breadth 33 m and parallel to its sides. Find the area of the roads. Also find the cost of constructing the roads at the rate of ₹ 100 per  $m^2$ .

