…..International School

Academic Year 2021 – 2022

PERIODIC TEST - 2

Name:	**Subject: Mathematics**	**Date: 30-9-2021**
Class: 10	**Set: A**	**Duration: 40 Minutes**
Section:	**Max. Marks: 25**	**Marks Obtained:**

General Instructions:

1) The question paper contains 25 Multiple Choice Questions of 1 mark each.
2) All questions are compulsory
3) Use of calculators is not allowed
4) There is no negative marking.

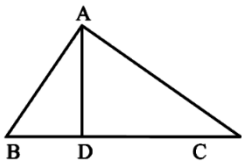
Questions 1 to 25 : **(1 x 25 =25)**

1) If in two triangles ABC and PQR, $\frac{AB}{QR} = \frac{BC}{PR} = \frac{CA}{PQ}$, then:
   a. △PQR ~ △CAB b. △PQR ~ △ABC
   b. △CBA ~ △PQR d. △BCA ~ △PQR

2) The lengths of a diagonal of a rhombus are 18cm and 24cm.Then the length of the side of the rhombus is ____
   a. 15cm b.30cm c.28cm d.26cm

   (OR)

   In the figure given below, ∠BAC=90° and AD⊥BC then:

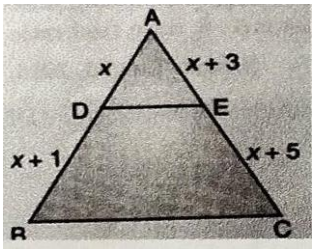


   a. BD. CD = BC^2 b. AB. AC = BC^2
   c. BD. CD = AD^2 d. AB. AC= AD^2

3) The sides of two similar triangles are in the ratio 7:9, then what is the ratio of their areas?
   a. 7:9 b. 14:18 c. 9:7 d. 49:81

4) To place a pole vertical on the ground a guy wire of length 26 m is attached to it at a point 10 m away from its foot, then what will be the length of pole?
a. 10 m b. 28 m c. 20 m d. 24 m

5) In ΔABC , DE||BC, then the value of x is _____cm.

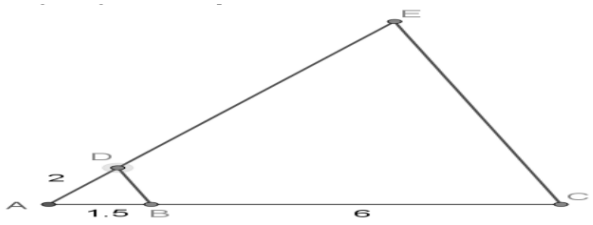


a. 3 cm b. 4 cm c. 5cm d.8cm

6) If △ABC∼△EDF and △ABC is not similar to △DEF, then which of the following is not true?
a. BC · EF = AC · FD b. AB · EF = AC · DE
c. BC · DE = AB · EF d. BC · DE = AB · FD

7) The perimeters of two similar triangles △ABC and △PQR are 35cm and 45cm respectively, then the ratio of the areas of two similar triangles is _____
a. 36:49 b. 49:81 c. 25:36 d.25:49

8) In the given figure line BD is parallel to CE. AB = 1.5 cm, BC = 6 cm, AD = 2 cm. Find DE.



a. 6 cm b. 8 cm c. 4 cm d. cannot be found.

9) In a equilateral triangle of side $3\sqrt{3}$ cm, the length of the altitude is _____
a. 3cm b. 4cm c. 4.5cm d. 5cm

10) If the distance between A(k,3) and B(2,3) is 5, then the value of k is:
a. 5 b.6 c.7 d. 8

11) The perimeter of the triangle with vertices (0,4),(0,0) and (3,0) is _____
a. 5 b. 12 c. 11 d. $7+\sqrt{5}$

12) If the point (x,y) is equidistant from the point(2,1) and(1,-2), then:
a. x+3y=0 b. 3x+y=0 c. x+2y=0 d. 3x+2y=0

13) The line segment joining the points(-3,-4) and (1,-2) is divided by the y-axis in the ratio

a. 1:3 b. 2:3 c. 3:1 d. 2:1

14) If four vertices of a parallelogram taken in order are (-3,-1), (a,b), (3,3) and (4,3), then a:b=
a. 1:4 b. 4:1 c. 1:2 d. 2:1

15) The point which divides the line segment joining the points (7,-6) and (3,4) in ratio 1:2 internally lies in the:
a. I quadrant b. II quadrant c. III quadrant d. IV quadrant

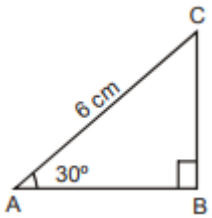
16) If the point (x,4) lies on a circle whose center is at the origin and radius is 5, then x=____
a. ±5 b. ±3 c.0 d. ±4

17) The distance of the point P(-6,8) from the origin is
a. 8 b. 2 c. 10 d. 6

18) If R(5,6) is the midpoint of the line segment AB joining the points A(6,5) and B(4,y) then y equals
a. 5 b. 7 c. 12 d. 6

19) If $\sin\alpha = \frac{1}{2}$ and $\cos\beta = \frac{1}{2}$, then the value of (α + β)
a. 0° b. 30° c. 60° d. 90°

20) . In the adjoining figure, the length of BC is



a. $2\sqrt{3}$ cm b. $3\sqrt{3}$ cm c. $4\sqrt{3}$ cm d. 3 cm

21) $\sqrt{\frac{1-sin\theta}{1+sin\theta}}$ =
a. $sin\theta - cos\theta$ b. $sec\theta - tan\theta$
c. $sec\theta + tan\theta$ d. $sin\theta + cos\theta$

22) $\frac{1-tan^2\theta}{1+tan^2\theta}$
a. 1 b. $\cos^2\theta - \sin^2\theta$ c. $\sin^2\theta$ d. $\cos^2\theta$

23) . If tan(A + B) =$\sqrt{\mathbf{3}}$ and tan(A- B) = $\mathbf{1}/\sqrt{\mathbf{3}}$, A > B , then the value of A is _____
a. 45° b. 60° c. 90° d. 30°

24) If cosA = $\frac{4}{5}$, then the value of tanA is
a. $\frac{3}{5}$ b. $\frac{3}{4}$ c. $\frac{4}{3}$ d. $\frac{1}{8}$

25) $\sin^2 60° - 2 \tan 45° - \cos^2 30° = ?$

a. 2 b. -2 c. 1 d. -1