

DDPI OFFICE UDUPI- BEO OFFICE KUNDAPURA

SSLC

Multiple Choice Questions Based Model Question Paper – 05

2020-21

Subject : Mathematics

Medium : English

Code No : 81E

Time : 1 Hour

Total No of Questions : 40

Max.Marks : 40

Four Choices are give for each of the questions/incomplete statements. Choose correct answer and shade the correct choice in the OMR given to you with blue/black ball point pen **40 × 01 = 40**

1) The lines representing $2x + 3y - 9 = 0$ and $4x + 6y - 18 = 0$ are

A) Intersecting lines

B) perpendicular lines

C) parallel lines

D) coincident lines

2) If $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are inconsistent pair then the ratio of their coefficients is

A) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$

B) $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

C) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2} = \frac{c_1}{c_2}$

D) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

3) One equation of a pair of consistent linear equation is $5x + 6y + 13 = 0$, the second equation can be

A) $5x + 6y + 13 = 0$

B) $10x + 12y + 16 = 0$

C) $x + y + 1 = 0$

D) $15x + 18y + 20 = 0$

4) 8 tables and 12 chairs together cost rupees 48000. Expressing the situation algebraically is

A) $8x + 12y + 48000 = 0$

B) $8x + 12y = 48000$

C) $4x + 6y = 36000$

D) $4x + 4y = 12000$

5) The common difference of the AP : $-4, -2, 0, 2, \dots$ is

A) 2

B) -2

C) $\frac{1}{2}$

D) $-\frac{1}{2}$

6) What is the last term of the AP $a, a + d, a + 2d, a + 3d, \dots$ containing m terms ?

A) $a + (m - 1)d$

B) $a + md$

C) $a + (m + 1)d$

D) $a + (2m + 1)d$

7) The 10^{th} term of $\sqrt{2}, \sqrt{8}, \sqrt{18}, \dots$ is

A) $\sqrt{162}$

B) $\sqrt{200}$

C) $\sqrt{242}$

D) $\sqrt{288}$

8) The sum of first ' n ' terms of the series $a, 3a, 5a, \dots$ is

A) na

B) $(2n - 1)a$

C) n^2a

D) n^2a^2

9) The common difference of the AP for which 20^{th} term is 10 more than the 18^{th} term is

A) 2

B) 3

C) 5

D) 10

10) One of the roots of the equation $2x^2=50$ is

A) 2

B) 3

C) 4

D) 5

11) Discriminant of the quadratic equation $3x^2 - 2x + \frac{1}{3} = 0$ is

A) 0

B) 1

C) 2

D) 3

12) The standard form of the equation $8x = -7x^2 + 3$ is

A) $8x + 7x^2 - 3 = 0$

B) $7x^2 + 8x - 3 = 0$

C) $7x^2 - 8x - 3 = 0$

D) $7x^2 + 8x + 3 = 0$

13) The value for 'c' for which the equation $ax^2 + bx + c = 0$ has equal roots is

A) $\frac{b^2}{a}$

B) $\frac{b^2}{4a}$

C) $\frac{a^2}{b}$

D) $\frac{a^2}{4b}$

14) $(\sec A + \tan A)(1 - \sin A)$ is equal to

A) $\sec A$

B) $\sin A$

C) $\operatorname{cosec} A$

D) $\cos A$

15) $\sin(90^\circ - \theta)$ is equal to

A) $\sec \theta$

B) $\cos \theta$

C) $\operatorname{cosec} \theta$

D) $\tan \theta$

16) If $\sin A = \frac{1}{\sqrt{2}}$ then the magnitude of $\angle A$

- A) 90° B) 60°
C) 30° D) 45°

17) The value of $\sin 60^\circ \cos 30^\circ + \sin 30^\circ \cos 60^\circ$ is

- A) 2 B) 0
C) 1 D) -1

18) If $\tan \theta = \frac{7}{8}$ then the value of $\frac{(1+\sin \theta)(1-\sin \theta)}{(1+\cos \theta)(1-\cos \theta)}$ is

- A) $\frac{7}{8}$ B) $\frac{8}{7}$
C) $\frac{64}{49}$ D) $\frac{49}{64}$

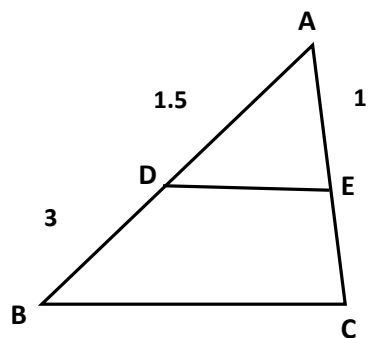
19) From a point on the ground which is 15 m away from the foot of the tower the angle of elevation of the top of the tower is found to 60° . The height of the tower is

- A) $10\sqrt{3} \text{ m}$ B) $15\sqrt{3} \text{ m}$
C) $12\sqrt{3} \text{ m}$ D) $20\sqrt{3} \text{ m}$

20) The co-ordinates of the mid-point of the line segment joining the points (2, 3) and (4, 7) are

- A) (-3, -5) B) (1,2)
C) (3,5) D) (6,10)

28) In the ΔABC , $DE \parallel BC$, $AD = 1.5 \text{ cm}$, $BD = 3 \text{ cm}$ and $AE = 1 \text{ cm}$, then the length of EC is

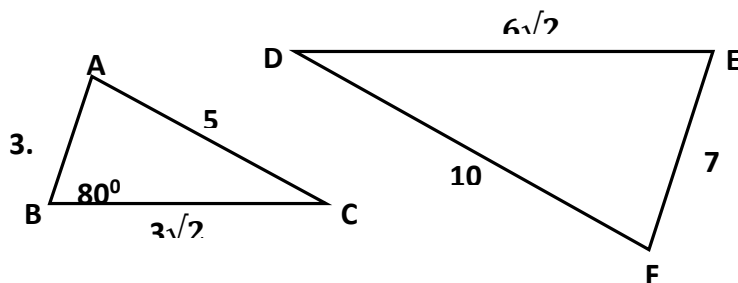


- A) 2 cm
- B) 8 cm
- C) 12 cm
- D) 16 cm

29) Another name for Basic Proportionality theorem is

- A) Pythagoras theorem
- B) Thales theorem
- C) AAA similarity criterion
- D) SAS similarity criterion

30) The similarity criterion used for the similarity of the given triangles shown below is

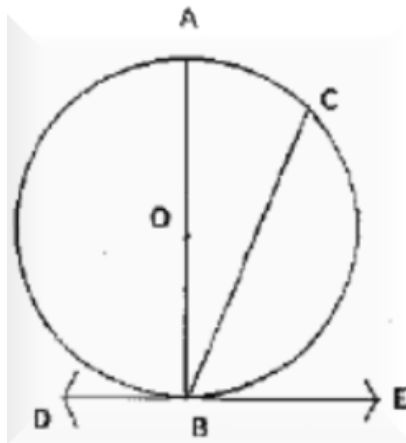


- A) AA
- B) SAS
- C) SSS
- D) AAA

31) The areas of similar triangles are 144 cm^2 and 81 cm^2 respectively. If the longest side of largest triangle is 36 cm , then the longest side of smaller triangle is

- A) 9 cm
- B) 12 cm
- C) 27 cm
- D) 18 cm

32) In the figure BC is



A) *radius*

B) *chord*

C) *diameter*

D) *secant*

33) Radii of two concentric circles are 5 cm and 3 cm respectively. The length of the chord of the larger circle which touches the smaller circle is

A) 8 cm

B) 2 cm

C) 4 cm

D) 16 cm

34) Number of tangents drawn to a circle from an internal point P is

A) 0

B) 1

C) 2

D) 3

35) To draw a pair of tangents to a circle which are inclined to each other at an angle of 135° , it is required to draw tangents at the end points of those two radii of the centre, the angle between which is

A) 45°

B) 65°

C) 55°

D) 35°

36) The formula to find the total surface area of a cone is

A) $2\pi rl$

B) $2\pi r(r + l)$

C) $\pi r^2 l$

D) $\pi r(r + l)$

37) The slant height of a frustum of a cone of height 8 cm and base radii 10 cm and 4 cm is

A) 10 cm

B) 8 cm

C) 4 cm

D) 12 cm

38) Two cubes with edges measuring 'a' units is placed one over the other. The total surface area of the solid is

A) $12a^2$

B) $10a^2$

C) $8a^2$

D) $6a^2$

39) The total surface area of a hemisphere with radius 7 cm is

A) 462 cm^2

B) 490 cm^2

C) 420 cm^2

D) 700 cm^2

40) Three metallic spheres of radii 3 cm , 4 cm , 5 cm are melted to form a single solid sphere. The radii of the resulting sphere is

A) 6 cm

B) 7 cm

C) 8 cm

D) 12 cm