MTH403 GRAND QUIZ

sec(s)

MTH403:Grand Quiz — Quiz Start Time: 07:49 AM, 02 July 2020

Question # 1 of 30 (Start time: 07:49:56 AM, 02 July 2020) — **Total Marks: 1**

Where is the focus of the parabola whose equation is $y^2 = 20x$ *?*

Select the correct option — Reload Math Equations

- (0, 20)
- (5, 0)
- (0, -5)
- (4, 0)

MTH403:Grand Quiz — Quiz Start Time: 07:49 AM, 02 July 2020

Question # 2 of 30 (Start time: 07:50:47 AM, 02 July 2020) — **Total Marks: 1**

The horizontal straight line i.e. x-axis is also termed as a/an _____ in polar coordinate system.

Select the correct option — Reload Math Equations

- vertical line
- initial line
- pole
- perpendicular line

Question # 3 of 30 (Start time: 07:50:55 AM, 02 July 2020) **Total Marks: 1**

Rectangular coordinates of a point are $P(x, y) = (\sqrt{8}, \sqrt{8})$. If $P(r, \theta)$ are the polar coordinates of the same point, then . . . . . .

Select the correct option

Reload Math Equations

- $\theta = \tan^{-1} 8$
- $\theta = \tan^{-1} 1$
- $\theta = \tan^{-1}(\sqrt{8})$
- $\theta = \tan^{-1} 4$

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 4 of 30 (Start time: 07:51:03 AM, 02 July 2020) **Total Marks: 1**

The conic is a parabola if e(eccentricity) is _____.

Select the correct option

Reload Math Equations

- equal to 1
- less than 1
- greater than 1
- between 0 and 1

Question # 5 of 30 (Start time: 07:51:11 AM, 02 July 2020) Total Marks: 1

The reflection of a complex number about real axis is called its conjugate

Select the correct option

- true
- false

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 6 of 30 (Start time: 07:51:19 AM, 02 July 2020) Total Marks: 1

The modulus of $z = -3 + 4i$ is

Select the correct option

Reload Math Equations

- $\sqrt{5}$
- 5

Question # 7 of 30 (Start time: 07:51:26 AM, 02 July 2020) **Total Marks: 1**

The conic is an ellipse if $h^2 - ab$ is _____.

Select the correct option Reload Math Equations

- equal to 0
- less than 0
- greater than 0
- between 0 and 1

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 8 of 30 (Start time: 07:51:32 AM, 02 July 2020) **Total Marks: 1**

Rectangular coordinates of a point are $P(x, y) = (6\sqrt{3}, 6)$. If $P(r, \theta)$ are the polar coordinates of the same point, then . . . . . .

Select the correct option Reload Math Equations

- $r = 6\sqrt{3}$
- $r = 6$
- $r = 36\sqrt{3}$
- $r = 12$

Question # 9 of 30 (Start time: 07:51:39 AM, 02 July 2020) Total Marks: 1

De Moivre's theorem expresses powers of $\sin\theta$ in a series of

Select the correct option

Reload Math Equations

- sines
- cosines

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 10 of 30 (Start time: 07:51:52 AM, 02 July 2020) Total Marks: 1

The hyperbola $x^2 - y^2 = 1$ is shifted two units left and five units up. What is the equation of this new hyperbola

Select the correct option

Reload Math Equations

- $(x-1)^2 - (y+5)^2 = 1$
- $(x+1)^2 - (y-5)^2 = 1$
- $(x-1)^2 - (y-5)^2 = 1$
- None of these

Question # 11 of 30 (Start time: 07:52:04 AM, 02 July 2020) **Total Marks: 1**

For the ellipse $\frac{x^2}{4} + \frac{y^2}{1} = 1$, the sum of the distances d_1 and d_2 (from a point on ellipse to its foci) is equal to . . . . . .

Select the correct option

Reload Math Equations

- $d_1 + d_2 = 4$
- $d_1 + d_2 = 1$
- $d_1 + d_2 = 2$
- $d_1 + d_2 = 0$

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 12 of 30 (Start time: 07:52:09 AM, 02 July 2020) **Total Marks: 1**

Using Euler's formula $e^{i\pi} =$

Select the correct option

Reload Math Equations

- 1
- -1

Question # 13 of 30 (Start time: 07:52:13 AM, 02 July 2020) Total Marks: 1

Length of diameter of a circle represented by the equation $8x^2 + 8y^2 - 8 = 0$ *is* ....

Select the correct option

Reload Math Equations

○	2
○	1
○	8
○	0

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 14 of 30 (Start time: 07:52:19 AM, 02 July 2020) Total Marks: 1

For the ellipse $\frac{(x-3)^2}{9} + \frac{(y-2)^2}{4} = 1$, length of its minor axis is . . . . . .

Select the correct option

Reload Math Equations

○	9
○	4
○	6
○	8

Question # 15 of 30 (Start time: 07:52:26 AM, 02 July 2020) **Total Marks: 1**

For the parabola $y^2 = 4ax$, length of the latus rectum is equal to . . . . . .

Select the correct option

Reload Math Equations

- 2a
- ax
- 4a
- a

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 16 of 30 (Start time: 07:52:32 AM, 02 July 2020) **Total Marks: 1**

If a point moves in a plane such that the difference between its distance from two fixed points is constant then then the path traced is ?

Select the correct option

Reload Math Equations

- Ellipse
- Parabola
- Hyperbola
- None of these

Question # 17 of 30 (Start time: 07:52:39 AM, 02 July 2020) **Total Marks: 1**

Using Euler's formula $e^{-i\pi} =$

Select the correct option

Reload Math Equations

- 1
- -1

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 18 of 30 (Start time: 07:52:44 AM, 02 July 2020) **Total Marks: 1**

4) The point where the parabola meets its axis is called the . . . . . of the parabola

Select the correct option

- Vertex
- Focus
- Directrix
- Eccentricity

Question # 19 of 30 (Start time: 07:52:51 AM, 02 July 2020) Total Marks: 1

Let $x = \cos\theta - i\sin\theta$, then $x\frac{1}{x} =$

Select the correct option

Reload Math Equations

- 1
- -1

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 20 of 30 (Start time: 07:52:57 AM, 02 July 2020) Total Marks: 1

In the conic section, if the eccentricity e of the conic is greater than 1, then it will be a . . . . . .

Select the correct option

- Parabola
- Hyperbola
- Circle
- Ellipse

Question # 21 of 30 (Start time: 07:53:03 AM, 02 July 2020) **Total Marks: 1**

If $P = (x, y)$ and $P(r, \theta)$ are the rectangular and polar coordinates respectively, then which of the following equations(s) hold(s)?

Select the correct option

Reload Math Equations

- $(a)\quad x = r\cos\theta \text{ and } y = r\sin\theta$
- $(b)\quad r^2 = x^2 + y^2$
- $(c)\quad \tan\theta = \frac{y}{x}$
- (d) All (a) to (c)

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 22 of 30 (Start time: 07:53:09 AM, 02 July 2020) **Total Marks: 1**

For $z = 1 + i$, $z^{-1} =$

Select the correct option

Reload Math Equations

- $\frac{1}{2}(1 - i)$
- $\frac{1}{\sqrt{2}}(1 - i)$

Question # 23 of 30 (Start time: 07:53:15 AM, 02 July 2020) Total Marks: 1

$1^i = \ldots\ldots$

Select the correct option

Reload Math Equations

- 0
- 1
- e
- -1

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 24 of 30 (Start time: 07:53:21 AM, 02 July 2020) Total Marks: 1

The value of principal argument lies within the range

Select the correct option

Reload Math Equations

- $-2\pi < \theta < 2\pi$
- $-\pi < \theta < \pi$

Question # 25 of 30 (Start time: 07:53:27 AM, 02 July 2020) Total Marks: 1

If $z = \bar{z}$ then z is a

Select the correct option

Reload Math Equations

- pure real number
- pure imaginary number

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 26 of 30 (Start time: 07:53:33 AM, 02 July 2020) Total Marks: 1

$$sinh0$$

=___?

Select the correct option

Reload Math Equations

- 1
- 2
- -1
- 0

Question # 27 of 30 (Start time: 07:53:40 AM, 02 July 2020) Total Marks: 1

The four fourth roots of unity form a square on joining on an argand diagram.

Select the correct option

- true
- false

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 28 of 30 (Start time: 07:53:46 AM, 02 July 2020) Total Marks: 1

Which equation describes a parabola?

Select the correct option

Reload Math Equations

- $-2y^2 + 10x + 9y = -11$
- $-4x^2 + 10x - 4y^2 - 2y + 9 = 0$
- $-8x^2 + 10y + 3y^2 - 4x - 2 = 0$
- $-3x^2 + 9x + 5y^2 + 2y = 2$

Question # 29 of 30 (Start time: 07:53:53 AM, 02 July 2020) Total Marks: 1

what is the centre of given ellipse $\frac{(x-3)^2}{16}+\frac{(y+5)^2}{49}=1$

Select the correct option

Reload Math Equations

- (4, 7)
- (3, -5)
- (-3, 5)
- (3, 5)

MTH403:Grand Quiz Quiz Start Time: 07:49 AM, 02 July 2020

Question # 30 of 30 (Start time: 07:53:58 AM, 02 July 2020) Total Marks: 1

The equation of hyperbola centered at origin with vertices $(\pm 3, 0)$ and co vertices $(0, \pm 2)$ is . . . . .

Select the correct option

Reload Math Equations

- $\frac{x^2}{9}+\frac{y^2}{4}=1$
- $\frac{x^2}{3}-\frac{y^2}{2}=1$
- $\frac{x^2}{9}-\frac{y^2}{4}=1$
- $\frac{x^2}{}+\frac{y^2}{}=1$