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Total No. of Questions: 20] [To SSERJSZM17 Roll No. A Roll No. of Printed Pages: 7 + Graph JKBOSEOLDPAPERS.BLO

MATHEMATICS

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Tio-Maximum Marks: 100 Commould be Time: 3 Hours All questions are compulsory.

- Diagrams, whenever necessary should be neat and accurate. (ii)
- Fill in the blanks:

 - (ii) The 5th term of the A. P. 2, 7, 12is
 - (iii) In a quadratic equation $ax^2 + bx + c = 0$ $a \ne 0$ the product of the roots is
 - (iv) The right bisector of a line divides it into equal parts, 1
 - The area of a square whose side is 3 cm is
 - (vi) Probability of an impossible event is Turn Over JKBOSEOLDPAP!

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SSERJSZM17-12503-Y 250 PAPERS.BLOG THE PLACES POT COM

WROCEOIDPAPERS.B

- Find the distance between the points (36, 15) and (0, 0). 2 JKBOSEOLDPAPERS.BLUE
- JKBOSEOLDPAPERS, BLOGSPOT, COM TP and TQ are the two tangents to a circle with centre Q so that $\angle POQ = 110^\circ$. Find angle PTQ.

 If $\tan 2 A = \cot (A + 188) \cot 2 A = \cot (A + 188) \cot 2 A = \cot (A + 188) \cot (A + 188$
 - $\angle POQ = 110^\circ$. Find angle PTQ.

 If $\tan 2 A = \cot (A 18^\circ)$, find the value of A, where 2 A is an IKBOSE acute angle.
 - Use Euclid's division algorithm to find the H. C. F of 867 and 255. 4

(2)

4)

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- If the 3rd and the 9th terms of an A. P. are 4 and -8 respectively, which term of this A. Pois zero?
- Solve the linear equation by the cross-multiplication method:

$$2x + y = 5$$

$$2x + y = 5$$
$$3x + 2y = 8$$

- a fraction reduces to 1. It becomes 1/2, if we only add 1 to the denominator. What is the fraction?

 9. Find a quadratic polynomial.
- quadratic polynomics 0 and $\sqrt{5}$ respectively. SSERJSZM17—1— JKBOSEOLDPAPERS.BLOGSP. 04.30N JKBOSEOLDPAPERS.BLOG

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- JKBO310. LA APERS. BLOGSPOT. COM A card is drawn from a pack of 52 cards. What is the probability of getting:

 1) Jack

 1) The ace of spades "
- the ace of spades?

 The ace of spades?

 The ace of the quadratic equation $2x^2 7x + 7$ exist by the method of quadratic for (x + 3 = 0, if they)exist by the method of quadratic formula.

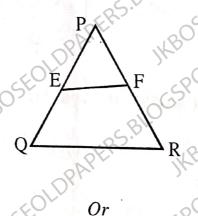
 Sum of Sum of the areas of two squares is 468 m². If the difference of their perimeters is 24 m, find the sides of the two squares

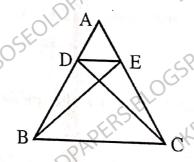
 $-x + \frac{1}{8} = 0$ by the method, of factorisation. Find the roots of $2x^2 - x$ SEO O PAPERS!

The product of two consecutive positive integers is 306. Find the JKBOSEOLDPAPERS.BLOK integers. ROADERS BLOGSPOT. COM

GSPOT.COM Turn Over WROSEOLDPAPERS.B JKBOSEOLDPAPERS.BLOGSPOT.COM 13. E and F are points on the sides PQ and PR respectively of ΔPQR where PE = 3.9 cm, EQ = 3 cm, PF = 3.6 cm and FR = 2.4 cm.

Prove that EF || QR. F) INBOSEOLDPAPERS





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In figure, if ΔABE ≅ ΔACD, show that ΔADE ~ ΔARC JKBOSEOLDPAPERS.BLOGSPOT.COM at the point O. If AB = 2 CD, find the ratio of the areas of triangles WBOSEOLDPAPERS! AOB and COD. RDADERS.BLOGSPOT.COM

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Or

ABC is an equilateral triangle of side 2a. Find its altitude.

B (-1, 0) or 1

Find the co-ordinates of a point A, where AB is the diameter of a circle whose centre is (2, -3) and B is (1, 4).

If $\sin A = 3/4$, calculate $\cos A$ and a a ROT COM

A REPORT OF THE RESERVE If $\sin A = 3/4$, calculate $\cos A$ and $\tan A$.

Or

Prove that identity: $\sin A = 2\sin^3 A$

Prove that identity!

alate
$$\cos A$$
 and $\tan A$.

Or

 $\frac{\sin \theta - 2\sin^3 \theta}{2\cos^3 \theta - \cos \theta} = \tan \theta$

(a)

(b)

(c)

(c)

(d)

(e)

(e)

(e)

(f)

(f)

(f)

JABOSE 17. T The shadow of a tower standing on a level ground is found to be JKBOSEOLDPARE Turn Over 40 m longer, when the sun's altitude is 30° than when it is 60°. JKBOSEOLDPAPERS.BI Find the height of the tower. - CONDERS BLOGSPOT COM

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Evaluate:

(i)
$$\frac{\sin^2 63^\circ + \sin^2 27^\circ}{\cos^2 17^\circ + \cos^2 73^\circ}$$

(ii)
$$\sin 25^\circ \cos 65^\circ + \cos 25^\circ \sin 65^\circ$$

18. Two concentric circles are of radii 5 cm and 3 cm. Find

- JKBOSEOLDPAPERS.BLOGSPOT.COM ar (ii) $\sin 25^\circ \cos 65^\circ + \cos 25^\circ \sin 65^\circ$ Two concentric circles are of of the chord of Two concentric circles are of radii 5 cm and 3 cm. Find the length JKBOSEOLI 8.AP. of the chord of the larger circle, which touches smaller circle.

- Prove that the lengths of tangents drawn from an external point to a circle are equal.
- Draw a triangle ABC with side BC = 7 $\angle A = 105^{\circ}$. Then construct a triangle whose sides are $\frac{4}{3}$ times the corresponding sides of a $\triangle ABC$. (Write the steps of construction.)

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Draw a circle of radius 6 cm. From a point 10 cm away from the centre, construct the pair of tangents to the circle and lengths. JKBOSEOLDPAPERS.BLOGSPOT.COM JKBOSEOLDPAPERS.B

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IKBO SZO, TERPARERS, BLOGSPOT, COM A toy is in the form of a cone of radius 3.5 cm mounted on a hemisphere of a cone of radius 3.5 cm mounted on a hemisphere of same radius. The total height of the toy is 15.5 cm.

Find the total surface area of the toy. Find the total surface area of the toy.

Or

A cap is shaped like the frustum of a cone. If its radius on the open Find the total surface area of the toy.

is 15 cm. Find the area of material used for making it. side is 10 cm radius at the upper base is 4 cm and its slant height JKBOSEOLDPAPERS.BLOGSPOT.COM IKBOSEOIDPAPERS.BLOGSPOT JKBOSEOLDPAPERS.BLOGS

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