



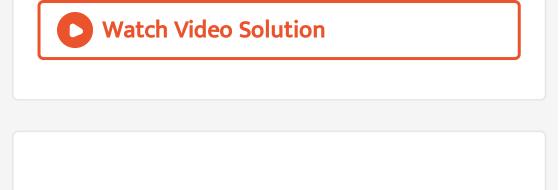
MATHS

BOOKS - A N EXCEL PUBLICATION

CONIC SECTIONS

Question Bank

1. Find the equation of the circle with (a) centre (0,2) and radius 2 (b) centre (-2,3) and radius 4



2. Find the equation of the circle in following

cases.

centre
$$\left(rac{1}{2}, rac{1}{4}
ight)$$
 and radius $rac{1}{12}$.



3. Find the equation of the circle with centre

(1,1) and radius $\sqrt{2}$

4. Find the equation of the circle with centre (-

a,-b) and radius
$$\sqrt{a^2-b^2}$$

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5. Find the centre and the radius of the following circle $(x+5)^2 + (y-3)^2 = 36$

6. Find the centre and radius of the following

circles.

$$x^2 + y^2 - 4x - 8y - 45 = 0$$



7. Find the centre and radius of the circle.

$$x^2 + y^2 - 8x + 10y - 12 = 0.$$

8. Find the centre and radius of the following

circles.

$$2x^2+2y^2-x=0$$



9. Find the equation of the circle passing through the points (4,1) and (6,5) and whose

centre is on the line 4x + y = 16



10. Find the equation of the circle passing through the points (2,3) and (-1,1) and whose centre is on the line x-3y-11 = 0

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11. Find the equation of the circle with radius 5 whose centre lies on x-axis and passes through the point (2,3).

12. Find the equation of the circle passing through (0,0) and making intercepts a and b on the co-ordinate axes.

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13. Find the equation of the circle with centre

(2,2) and passing through the point(4,5).

14. Does the point (-2.5,3.5) lie inside, outside

or on the circle $x^2+y^2=25$

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15. Consider a circle with centre (2,-1) and which passes through (3,6) Find the radius of the circle

16. Consider a circle with centre (2,-1) and which passes through (3,6).Find the equation of the circle



17. Find the point of intersection of the lines

3x-y = 2 and x+2y = 3

18. If the lines 3x-y = 2 and x+2y = 3 are two diameters of a circle and if the circle passes

through (2,0), find the equation of the circle.



19. If (-a,-a) are the co-ordinates of a point

which lies on x-2y = 3, find the value of a



20. Find, the equation of the circle which touches both the axes and whose centre lies on x-2y = 3



21. Consider a triangle whose sides are along

x+y = 2, 3x-4y = 6 and x-y = 0

Find the vertices of the triangle



22. Consider a triangle whose sides are along

x+y = 2, 3x-4y = 6 and x-y = 0. Prove that the

triangle is right angled

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23. Consider a triangle whose sides are along x+y = 2, 3x-4y = 6 and x-y = 0.Find the mid point of the hypotenuse and the length of the hypotenuse

24. Consider a triangle whose sides are along

x+y = 2, 3x-4y = 6 and x-y = 0

Find the equation of the circum circle of the

triangle

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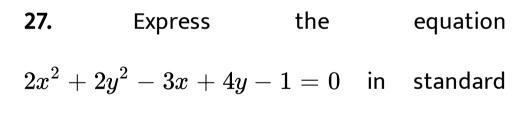
25. Consider the points A (4,3), B (8,-3) and C

(0,9).Find the slopes of AB and BC

26. Consider the points A (4,3), B (8,-3) and C (0,9)

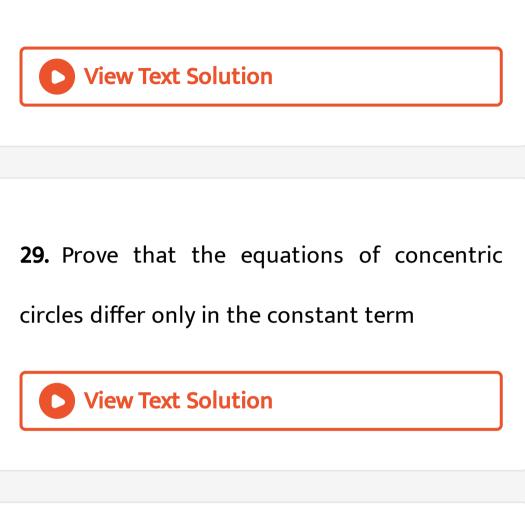
Prove that A, B, C can't lie on a circle

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28. Find the centre and radius of the circle

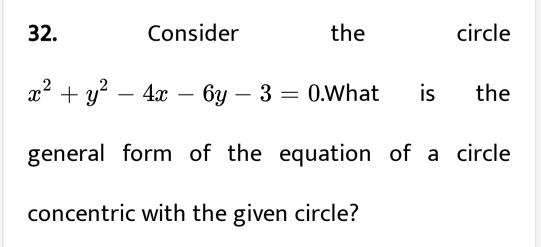


30. Find the radius and hence the area of the

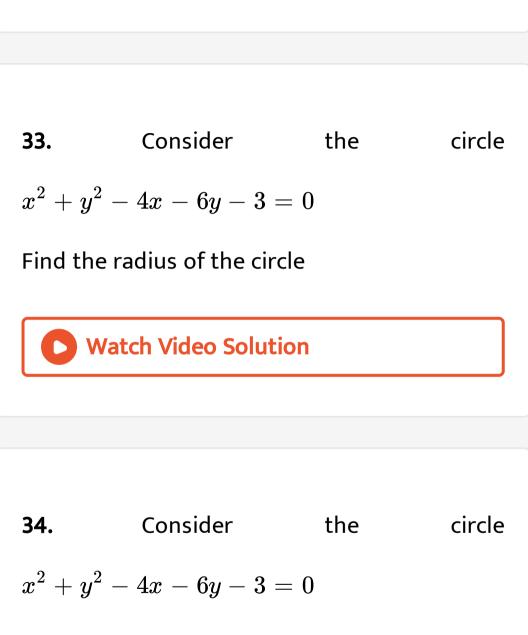
circle $x^2 + y^2 - 6x + 12y + 15 = 0$

31. Find the equation of the circle concentric with the circle $x^2 + y^2 - 6x + 12y + 15 = 0$

and double of its area

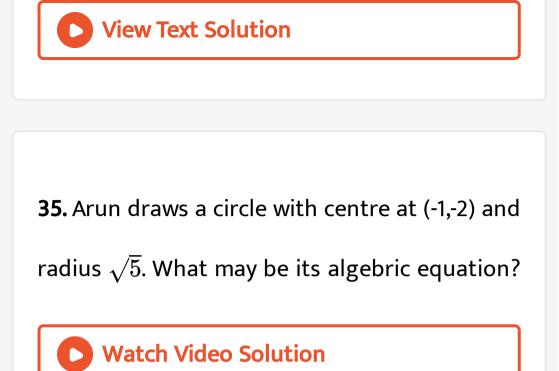






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If this circle touches the y axis, find its equation



36. If (-1,-2) and (5,2) are the end points of a

diameter of a circle, find its centre and radius

37. Can you write the equation of circle by

using two different methods?



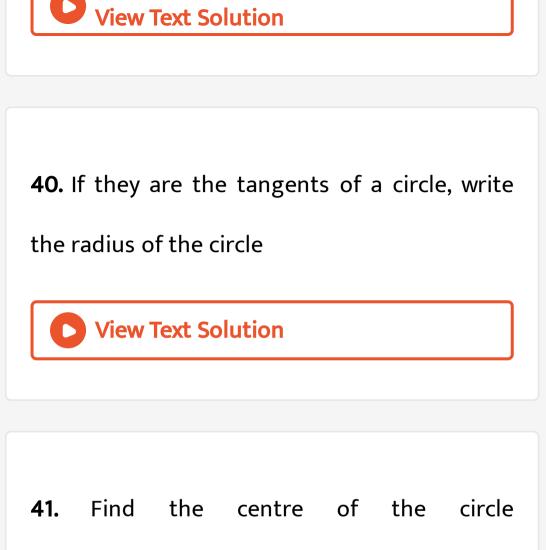
38. Write the slopes of the lines 2x+3y-9=0 and

4x+6y+19=0. What do you observe?

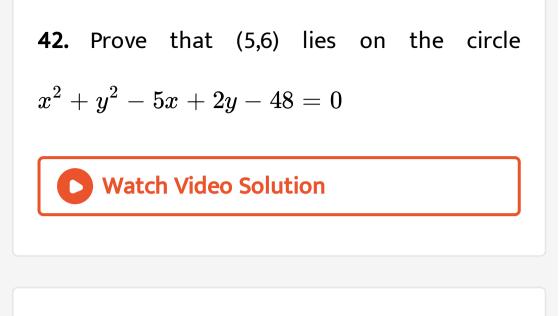
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39. Find the distance between them.





$$x^2 + y^2 - 5x + 2y - 48 = 0$$



43. Find the equation of this normal

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44. Complete the following table



45. Find the equation of the circle passing through (1,0),(2,-7) and (8,1). Hence prove that (1,0),(2,-7),(8,1) and (9,-6) are concyclic

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46. For the following parabolas find the coordinates of the focus, equation to the directrix, equation to the axis, co-ordinates of the vertex and length of latus rectum. $y^2 = 6x$ **47.** For the following parabolas find the coordinates of the focus, equation to the directrix, equation to the axis, co-ordinates of the vertex and length of latus rectum. $2y^2 = -8x$

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48. For the following parabolas find the coordinates of the focus, equation to the directrix, equation to the axis, co-ordinates of

the vertex and length of latus rectum. $x^2 = 4y$



49. For the following parabolas find the coordinates of the focus, equation to the directrix, equation to the axis, co-ordinates of the vertex and length of latus rectum. $16x^2 = -25y$

50. Find the equation of the parabola if

the vertex is at the origin and the focus is (1,0)



51. Find the equation of the parabola if the vertex is at the origin and the focus is (0,-4)

52. In each of the following cases, find the coordinates of the focus, axis of the parabola, the equations of the directrix and the length of the latus rectum $y^2 = 12x$

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53. In each of the following cases, find the coordinates of the focus, axis of the parabola, the equations of the directrix and the length of the latus rectum $x^2 = 6y$



54. In each of the following cases, find the coordinates of the focus, axis of the parabola, the equations of the directrix and the length of the latus rectum $y^2 = -8x$

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55. In each of the following cases, find the coordinates of the focus, equation of axis of the parabola, the equations of the directrix and the length of the latus rectum

$$x^2=\,-\,16y$$



56. In each of the following cases, find the coordinates of the focus, axis of the parabola, the equations of the directrix and the length of the latus rectum

$$y^2 = 10x$$

57. In each of the following cases, find the coordinates of the focus, axis of the parabola, the equations of the directrix and the length of the latus rectum

$$x^2=~-~9y$$

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58. Find the equation of the parabola satisfying the following condition,

focus(6,0), directrix x = -6.

59. Find the equation of the parabola whose

focus is (0,-3) and directrix is y=3

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60. Find the equation of the parabola whose

vertex is (0,0) and focus is (3,0)

61. Find the equation of the parabola whose

vertex is (0,0) and focus is (-2,0)