MATHS

BOOKS - MAHAVEER PUBLICATION

STRAIGHT LINE

Question Bank

1. Find the Slope of a line whose inclination to the positive direction of X-axis is anticlockwise sense is 45°

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2. Find the Slope of a line whose inclination to the positive direction of X-axis is anticlockwise sense is 135°

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3. Find the Slope of a line whose inclination to the positive direction of X-axis is anticlockwise sense is 120°

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4. Find the Slope of a line whose inclination to the positive direction of X-axis is anticlockwise sense is $\frac{3\pi}{4}$

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5. Find the Slope of a line whose inclination to the positive direction of X-axis is anticlockwise sense is $-\frac{\pi}{4}$

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6. What can be said about a straight line if its slope is positive ?

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7. What can be said about a straight line if its slope is negative ?

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8. What can be said about a straight line if its slope is zero ?

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9. Find the slope of the line passing through (3,-2) and (1,4)

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10. Find the slope of the line passing through (3,2) and (4,5)

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11. Find the slope of the line passing through (7,2) and (7,-5)

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12. Find the equation of the lines parallel to axes and passing through (-3,4).

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13. Find the equation of the line cutting off an intercept of length 2 from the negative direction of the axis of y and making an angle of 120° with the positive direction of X-axis.

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14. Every first degree equation in x, y represents a straight line.

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15. Find the equation of the line which passes through the point (-4,3) with slope 1/2

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16. Find the equation of the line which passes through (-1,1) and (2,-4).

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17. Find the equation of the line, which makes intercepts 4 and -5 on the X-axis and Y-axis respectively.

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18. Find the equation of the line whose perpendicular distance from the origin is 5 units and the angle made by the perpendicular with the positive X-axis is 30°

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19. Find the angle between the lines 7x-y = 1 and 6x-y = 11

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20. If the angle between two lines is $\frac{\pi}{4}$ and slopes of one of the lines is 1/2, find the slope of the other line.

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21. Find the equation of a straight line, which passes through the point (1,2) and which is parallel to the straight line 2x+3y+6=0

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22. Find the equation of a line which is perpendicular to the line $4x+5y+2=0$ and passing through the point $(-2,4)$

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23. Find the perpendicular distance from the point $(2,3)$ from $2x+3y+4=0$

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24. Find the points on the X-axis whose perpendicular distance from the line x/a+y/b=1 is a

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25. Find the distance between the parallel lines 3x-4y+7=0 and 3x-4y+5=0

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26. Find the equation of the line passing through (-2,-3) and

parallel to x-axis

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27. Find the equation of the line passing through (-2,-3) and

parallel to y-axis

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28. Find the slope of a line which makes an angle of

45° with the positive direction of Y-axis.

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29. Find the slope of a line which makes an angle of

45° with the negative direction of X-axis.

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30. Find the slope of a line joining the points (2,-3) and (3,4)

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31. Find the slope and y-intercept of the line whose equation is 3x-6y=12.

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32. Determine x so that the slope of the line through the points (2,5) and (7, x) is 3.

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33. Find the slope of a line, which passes through the origin and mid-point of the segment joining the points P(0,-4) and B(8,0).

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34. Find the angle between the X-axis and the line joining the points (3,-1)and(4,2).

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35. If three points (h,0),(a,b)and(0,k)lie on a line, show that a/h+b/k=1

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36. Find the equation of the line passing through (3,-5) and perpendicular to the line through the points (2,5) and (-3,6)

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37. Find the equation of the line passing through (0,2) making an angle $\frac{2\pi}{3}$ with the positive X-axis. Also find the equation of the line parallel to it and crossing the Y-axis at a distance of two units below the origin.

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38. Convert the following equation into intercept forms and perpendicular (normal)forms.

$x - \sqrt{3}y + 8 = 0$

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39. Convert the following equation into intercept forms and perpendicular (normal)forms.

y-2=0

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40. Convert the following equation into intercept forms and perpendicular

(normal)forms.

$3x-4y+10=0$

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41. Convert the following equation into intercept forms and perpendicular (normal)forms.

$x-y=4$

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42. Find the distance of the point (-1,1) from the line $12(x+6)=5(y-2)$

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43. Find the points on the X-axis, whose distances from the line $x/3+y/4=1$ are 4 units.

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44. Find the equation of a line which passes through the point (3,1) and bisects the portion of the line $3x+4y=12$ intercepted between coordinate axes.

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45. Find the distances between parallel lines $2x+y-5=0$ and $2x+y+2=0$

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46. Find the distances between parallel lines $l(x+y)+p=0$ and $l(x+y)-r=0$

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47. Find the equation of the straight line which passes through the point (-1,0) and is parallel to the straight line $y=2x+3$.

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48. Find the equation of the straight line which passes through the point (0,3) and is perpendicular to the straight line x+y+1=0

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49. Find the equation of the the line which has x-intercept -8 and is perpendicular to the line x+4y-17=0.

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50. Find the equation of the line whose y-intercept is 2 and is parallel to the line x-3y+7=0

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51. Prove that the equation of a straight line passing through $(a\cos^2\theta, a\sin^2\theta)$ and perpendicular to the line $x\sec\theta + y\cos ec\theta = a$ is $x\cos\theta - y\sin\theta = a\cos 2\theta$

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52. Find the points on the axis of Y whose perpendicular distance from the straight line $4x+3y=12$ is 4

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53. Find the angle between the lines $4x+y=3$ and $x/2+y=4/7$

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54. Find the equation of a line which passes through the point (3,2) and cuts off positive intercepts on X and Y axes in the ratio of 4:3.

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55. If p is the length of perpendicular from the origin to the line whose intercepts on the axes are a and b, then show that $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$.

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