MATHS

BOOKS - JEEVITH PUBLICATIONS

MATHS (KANNADA ENGLISH)

STRAIGHT LINES

One Marks Questions With Answers

1. Find the slope of the line joining

(2,3) & (4,6)

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2. Find the slope of the line joining

(-3,4) & (7, -12)

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3. Find the slope of the line making an angle of

210° with positive direction of x-axis.

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4. Prove that AB||CD if A = (-1,-2), B = (0, 1), C = (3, 0), D = (2, -3)

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5. Prove that $AB \perp CD$ if A = (2, 1), B = (0, -1), C= (-1, 8), D = (4, 3)

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6. Find λ if the line joining (1, 5) and (2, λ) is parallel to x axis.

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7. Prove that the following points are collinear (using the slope concept)

$A = (3, -4), B = (-7, 6), C = (-2, 1)$

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8. Find the equation of the line passing through (4, 5) & having slope 3.

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9. Find the equation of the line passing through (2, 3) & (4, -5)

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10. Find the equation of line having y-intercept $\frac{3}{4}$ and making an angle of 135° with positive direction of x-axis.

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11. Find the equation of the line which cuts off intercepts 7 and -4 on x and y-axes respectively.

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12. Find the equation of the line if p=2 and $\alpha = 60^\circ$.

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13. Convert $2x + 3y - 5 = 0$ to slope intercept form

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14. Find the slope of the line $3x - 4y + 1 = 0$.

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Two Marks Questions With Answers

1. Find the equation of the median through vertex A of ΔABC if

$A = (1, 2), B = (-3, 4), C = (-1, 6)$

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2. Find k if the following lines are parallel

$3x - 4y + 1 = 0 \qquad \ldots(\mathrm{i})$

$5x + ky + 7 = 0 \quad \ldots(\text{ii})$

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3. Find k if the following lines are perpendicular

$(k + 2)x + (2k + 1)y = 7$ and $5x - 4y = 23$

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4. Find the equation of line passing through (4, 2) and parallel to the line

$5x - 7y + 11 = 0$

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5. Find the equation of the line passing through (4, 5) perpendicular to the line $3x + 7y - 2 = 0$.

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6. Find the equation of the passing through (2, 3) and cutting off equal intercepts on co-

ordinate axis.

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7. Find the equation of the line such that the portion of the line intercepted between the axes is bisected at (3, -2).

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8. Find the acute angle between :-

$5x + 6y - 1 = 0, \quad x - 11y + 8 = 0$

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9. Findt the point of intersection of following lines :-

$x - 2y + 3 = 0 \quad \ldots(1)$

$3x + 2y + 5 = 0 \quad \ldots(2)$

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10. Prove that the following lines are concurrent also find the point of concurrency.

$3x - 4y + 5 = 0 \quad \ldots(1)$

$7x - 8y + 5 = 0 \quad \ldots(2)$

$4x + 5y = 45 \quad \ldots(3)$

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11. Find k so that the following lines are concurrent

$3x + y = 2 \quad \ldots(1)$

$kx + 2y = 5 \quad \ldots(2)$

$2x - y = 3 \quad \ldots(3)$

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12. Find the orthocentre of the triangle whose vertices are given by $(5, -2), (-1, 2), (1, 4)$

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13. Prove that the points (2, -5) & (-2, 4) lie on the same side of the line $3x + y + 5 = 0$.

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14. Prove that the points (2, -3) & (-3, 7) lie on the opposite sides of the line $2x + 5y - 8 = 0$.

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15. Find the length of the $\perp r$ drawn from the point (2, 3) on the line $3x + 5y - 2 = 0$.

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16. Prove that the points (2, -5) & (-1, 4) are equidistant from the line $3x + y - 5 = 0$.

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17. Find the distance between the following parallel lines

$3x + 4y + 2 = 0 \quad (ax + by + c_1 = 0)$

$3x + 4y - 7 = 0 \quad (ax + by + c_2 = 0)$

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Five Marks Questions With Answers

1. Find the ratio in which the line joining (-3, -2) & (-1, 4) is divided by the line joining (-4, 1) & (1, 2).

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2. Find the equation of line passing through (2, -3) & making 45° with the line $5x + 6y - 2 = 0$.

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3. Find the equation of line passing through the point of intersection of the lines :-

(i) $2x + 3y - 7 = 0 \quad .....(1)$ &

$5x + 2y + 10 = 0 \quad .....(2)$ & through the point (2, -3).

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4. Find the equation of line passing through the point of intersection of the lines :-

(ii) $x - y + 1 = 0 \quad \ldots.(1)$

& $2x + y - 4 = 0 \quad \ldots..(2)$ parallel to

$3x + 4y - 5 = 0 \quad \ldots\ldots(3)$

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5. Find the co-ordinates of the foot of the perpendicular drawn from the point (2, 3) on the line x+y-9=0.

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6. Find the image (or reflection) of the point (2, 1) on the line $x + y - 5 = 0$.

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