

GRADIENTS OF PERPENDICULAR LINES

- 1) Write down the gradient of a line which is perpendicular to the lines with each of these gradients:
(a) 5 (b) 2 (c) 1 (d) $\frac{3}{4}$ (e) $-2\frac{1}{2}$ (f) $-\frac{2}{7}$
- 2) Which of these lines is perpendicular to the line with equation $y = 5x - 3$?
(a) $y = \frac{1}{5}x + 2$ (b) $y = -\frac{1}{5}x + 2$ (c) $y = -5x - 2$ (d) $y = 5x + 2$
- 3) A line passes through the origin and is perpendicular to the line with equation $y = 3x - 2$. Find the equation of the line.
- 4) A line is perpendicular to the line with equation $y = x + 4$ and its intercept with the y axis is (0,6). Find the equation of the line.
- 5) A line is perpendicular to the line with equation $y = 3x + 1$ and its intercept with the y axis is (0, -4). Find the equation of the line.
- 6) A line is perpendicular to the line with equation $y = -2x + 4$ and passes through the point with coordinates (6, 7). Find the equation of the line.
- 7) A line passes through the point with coordinates(4, 1) and is perpendicular to the line with equation $y = -\frac{2}{5}x + 3$. Find the equation of the line.
- 8) Which of these lines is perpendicular to the line with equation $3x + 5y = 15$? Give reasons for your answer.
(a) $3x - 5y = 30$ (b) $5x + 3y = 30$ (c) $5x - 3y = 30$
- 9) A line passes through the point with coordinates (6, 1) and is perpendicular to the line with equation $2x - 3y = 6$. Find the equation of the line.
- 10) A line passes through the point with coordinates (8, 1) and is perpendicular to the line with equation $4x + 3y = 12$. Find the equation of the line.

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