Parallel & Perpendicular Lines
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(1) Write down the gradient of a line *(i)* parallel to and *(ii)* perpendicular to the following lines:
(a) $y = 3x - 1$
(b) $y = 4 - 2x$
(c) $x + y = 0$
(d) $2x + 3y = 7$
(e) $px - qy - 4 = 0$

(2) Find an equation of the line *(i)* parallel to and *(ii)* perpendicular to the line $y = 5x + 1$ that passes through the point $(2, 4)$.

(3) The perpendicular bisector of the line segment AB crosses the x axis at the point P. Given the coordinates of A are $(2,1)$ and the coordinates of B are $(6, 4)$ find the coordinates of the point P.

(4) The lines $x + 3y - 4 = 0$ and $y = mx + 2$ are perpendicular. Find the value of m.

(5) Given the lines $px + y = 0$ and $2y = 3 + 5qx$ are parallel express p in terms of q.

(6) The line l passes through the point $(-1, 5)$ and is perpendicular to the line $2x + 4y + 7 = 0$. Line l meets the line $y = 3x + 8$ at the point P. Find the coordinates of P.

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