Equations of Perpendicular Lines

Decide whether each of these pairs of lines is perpendicular, parallel or neither:

(a) $y = 2x - 1$ and $y = -\frac{1}{2}x + 5$

(b) $y = \frac{1}{3}x + 2$ and $y = \frac{1}{3}x - 4$

(c) $y = 1 - 4x$ and $y = -\frac{1}{4}x + \frac{3}{4}$

(d) $y = \frac{2}{3}x$ and $y = -\frac{3}{2}x - 6$

(a) Perpendicular

(b) Parallel

(c) Neither

(d) Perpendicular

(a) Write down the equation of the straight line that is perpendicular to the line $y = -3x + 1$ and passes through $(0, 2)$

(b) Write down the equation of the straight line that is perpendicular to the line $y = \frac{1}{4}x - 5$ and passes through $(0, 7)$

(c) Write down the equation of the straight line that is perpendicular to the line $y = -\frac{1}{2}x$ and passes through $(0, -4)$

(a) $y = \frac{1}{3}x + 2$

(b) $y = -4x + 7$

(c) $y = 2x - 4$

(a) Write down the equation of the straight line that is perpendicular to the line $y = 4 - 5x$ and passes through $(0, -8)$

(b) Write down the equation of the straight line that is perpendicular to the line $y + 3x = 9$ and passes through $(0, 0)$

(c) Write down the equation of the straight line that is perpendicular to the line $2y = -5x + 6$ and passes through $(0, 4)$

(a) $y = \frac{1}{5}x - 8$

(b) $y = \frac{1}{3}x$

(c) $y = \frac{2}{5}x + 4$

Match the pairs of perpendicular lines:

$y = \frac{2}{3}x - 1$ $y = \frac{1}{2}x + \frac{3}{2}$

$y - 3x = 2$ $2 - 3x = 2y$

$3 - 2x = y$ $3y + x + 2 = 0$

$y = \frac{2}{3}x - 1$ & $2 - 3x = 2y$

$y - 3x = 2$ & $3y + x + 2 = 0$

$3 - 2x = y$ & $y = \frac{1}{2}x + \frac{3}{2}$