INTERSECTION OF TWO LINES

1 The coordinates of the intersection point of the lines $x + 2y - 3 = 0$ and $2x - 2y - 6 = 0$ are:

A $(0,3)$ **B** $(0,-3)$ **C** $(3,0)$ **D** $(-3,0)$

2 Find the equation of the line that contains the intersection point of the lines $2x + 5y - 19 = 0$ and $3x - 4y + 6 = 0$ and is parallel to the line with equation $4x - y - 8 = 0$.

5 Find the equation of the straight line that contains the intersection point of the lines $3x + 2y - 12 = 0$ and $5x - y - 7 = 0$ and that:

(a) passes through the point $(-4,-5)$ **(b)** is parallel to the line $2x - y + 4 = 0$

(c) is perpendicular to the line $y = 5$.

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7 $ABCD$ is a quadrilateral. The coordinates of A, B and C are $(-8,6)$, $(2,4)$ and $(5,-7)$ respectively. If the diagonals are perpendicular and DC is parallel to the x-axis, find:

(a) the coordinates of D **(b)** the coordinates of the intersection point of the diagonals.

9 Without actually solving the simultaneous equations, state whether the following pairs of lines intersect, are parallel or coincide.

(a) $2x-3y-8=0$
$4x-6y-16=0$

(b) $x+3y+7=0$
$2x+7y+16=0$

(c) $6x-5y-24=0$
$9x-4y-22=0$

(d) $x+y-7=0$
$x+y-8=0$