# Parallel and Perpendicular Lines *fluency*

**Write the gradient of a line perpendicular to**

1 $y = 3x + 1$

2 $y = -2x + 5$

3 $y = \frac{x}{4} - 1$

4 $y = 5 - x$

5 $y = 0.5x + 2$

6 $3y = 2x - 6$

**Are the lines parallel, perpendicular or neither?**

7 $y = 2x + 1$ and $y = 2x - 3$

8 $y = 3x$ and $y = -\frac{x}{3} + 4$

9 $y = 4x - 1$ and $y = -4x + 2$

10 $y = 4x$ and $4y = 1 - x$

11 $2y = 6x + 1$ and $y = 3x - 8$

12 $y = -5x$ and $5y = x + 2$

**Find the equation of the line perpendicular to the given line, through the point**

13 $y = 2x + 1$, $(4, 3)$

14 $y = -3x + 2$, $(6, 1)$

15 $y = \frac{x}{2}$, $(1, 5)$

16 $y = x - 4$, $(2, 0)$

17 $y = -\frac{x}{4} + 3$, $(-1, 2)$

18 $y = 5x + 1$, $(10, 0)$

**Rearrange first. Find the equation of the line perpendicular to it through the point.**

19 $2x + y = 6$, $(2, 1)$

20 $x + 3y = 9$, $(1, 4)$

21 $4x - 2y = 5$, $(2, 3)$

22 $y - 2x = 7$, $(4, -1)$

23 $3x + 4y = 12$, $(3, 2)$

24 $x - 5y = 10$, $(0, -2)$

**Find the equation of the perpendicular bisector of *AB***

25 $A(0, 0), B(4, 2)$

26 $A(2, 1), B(6, 3)$

27 $A(1, 5), B(5, 1)$

28 $A(-2, 3), B(4, 3)$

29 $A(0, 4), B(2, 0)$

30 $A(-3, -1), B(1, 7)$