Topic test | Linear equations and inequalities

Linear equations and inequalities practice test 2

Name: _____ Date: _____

16 questions | 40 marks | 55 minutes

Solve and interpret linear equations, simultaneous equations and inequalities.

No calculator needed.

1. Solve $7x - 9 = 19$. [2 marks]

2. Solve $4(x + 2) = 2x + 22$. [2 marks]

3. Solve $\frac{x}{2} + \frac{1}{3} = \frac{11}{6}$. [3 marks]

4. Check whether $x = -2$ solves $3(x - 1) = 2x - 5$. [2 marks]

5. Solve $y = 4x - 3$ and $y = x + 6$. [2 marks]

6. Solve $3x + y = 14$ and $x - y = 2$. [2 marks]

7. Solve $2x + 3y = 7$ and $3x - 2y = 2$. Give exact values. [3 marks]

8. Classify $x + 2y = 8$ and $2x + 4y = 11$. [2 marks]

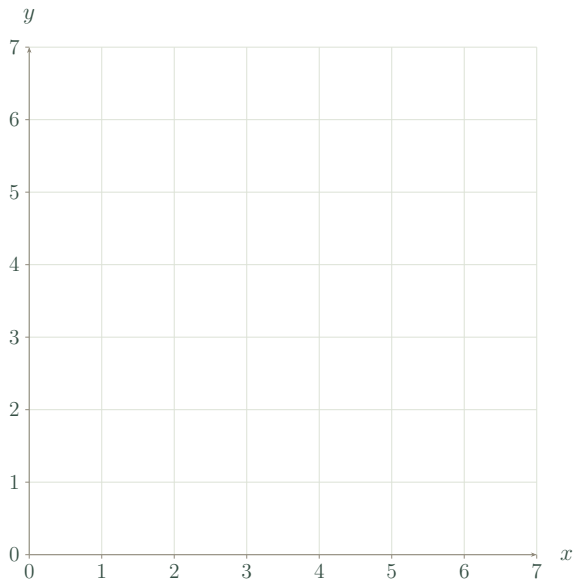
9. Find k so that $y = -2x + k$ and $2x + y = 7$ describe the same line. [2 marks]

10. Solve $5 - 3x \geq 14$. [2 marks]

11. Solve $2(x+4) < 5x - 1$. [2 marks]

12. Solve $-\frac{x+1}{2} \leq 3$. [3 marks]

13. Draw $y = 2x$ and $y = 6 - x$ on the supplied grid and state their intersection. [3 marks]



14. Describe the region $y \geq x + 2$. Is the boundary included? [2 marks]

15. Consider $x \geq 0$, $y \geq 0$, $2x + y \leq 6$. [4 marks]

(a) List the vertices of the feasible region. [2 marks]

(b) Is $(2, 2)$ feasible? Explain. [2 marks]

16. There are 22 vehicles, each a car with four wheels or a motorbike with two wheels. There are 68 wheels. Find each count. [4 marks]