Algebraic expressions topic test

Name: _____ Date: _____

15 questions | 35 marks | 45 minutes

Progressive practice in expressions, substitution, expansion, common factors and formulas.

No calculator needed.

1. Simplify $8x + 3x$. [1 mark]

2. Simplify $9a - 5a + 6$. [1 mark]

3. Evaluate $4x + 7$ when $x = -3$. [2 marks]

4. Simplify $(2p)(7p)$. [2 marks]

5. Simplify $\frac{30a^2}{6a}$ for $a \neq 0$. [2 marks]

6. Expand $4(x + 6)$. [2 marks]

7. Expand $-3(2y - 5)$. [2 marks]

8. Factorise fully $15x + 20$. [2 marks]

9. Factorise fully $10a^2 - 15a$. [3 marks]

10. Simplify $5(x+3)-2x$. [3 marks]

11. Are $8x+20$ and $4(2x+5)$ equivalent? Explain. [2 marks]

12. Evaluate $3a-2b$ when $a=-2$ and $b=\frac{3}{2}$. [3 marks]

13. A delivery charge is $C=5n+8$ dollars for n parcels. [3 marks]

(a) Make n the subject. [2 marks]

(b) Find n when $C=48$. [1 mark]

14. A rectangle has side lengths $(x + 3)$ cm and $(x + 6)$ cm. [4 marks]

(a) Write and simplify its perimeter. [2 marks]

(b) Find the perimeter when $x = 4$. [2 marks]

15. Ravi writes $3(2x - 5) = 6x - 5$. [3 marks]

(a) Explain the error and give the correct expansion. [2 marks]

(b) Evaluate the original expression at $x = 3$. [1 mark]