Topic test | Algebra

Algebra practice test 2

Name: _____ Date: _____

16 questions | 41 marks | 55 minutes

A balanced review of expressions, fractions, equations and formulas.

No calculator needed.

1. Simplify $6p^2 + 4p - 2p^2 + 3p$. [2 marks]

2. Simplify $5a - (2a - 7)$. [2 marks]

3. Expand $-2x(3x - 4)$. [2 marks]

4. Factorise $21a^2 + 14a$. [2 marks]

5. Factorise $-12p + 8$. [2 marks]

6. State the restriction and simplify $\frac{6(x+3)}{9(x+3)}$. [2 marks]

7. Simplify $\frac{a+2}{5} \times \frac{10}{a+2}$. [2 marks]

8. Simplify $\frac{4}{m-2} - \frac{m+1}{m-2}$. [2 marks]

9. Simplify $\frac{3}{x}+\frac{2}{x-1}$. [3 marks]

10. Simplify $\frac{x}{x+2}\div\frac{3x}{x-1}$ and retain every restriction. [3 marks]

11. Solve $\frac{3}{x+2}=\frac{2}{x+5}$. [3 marks]

12. Make b the subject of $A=\frac{(a+b)h}{2}$. [3 marks]

13. A shop buys n items for a total of $15n + 60$ dollars. Express the cost per item in simplified form and evaluate it for $n = 12$. [3 marks]

14. Find the real domain of $\frac{\sqrt{7 - x}}{x + 1}$. [3 marks]

15. State the complete solution set of $\frac{3x - 9}{x - 3} = 3$. [3 marks]

16. Dylan claims $\frac{x + 4}{x + 2} = \frac{4}{2}$ because x cancels. Explain the error and solve when his numerical answer 2 actually matches the fraction. [4 marks]