Algebraic Fractions: Simplify, Add & Subtract (Grade 10)

MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 23

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 Simplify: $\frac{x^2 - 16}{x + 4}$ (2)

$x - 4$, $x \neq -4$ ✓✓ (2)

2 Simplify: $\frac{x^2 - 25}{x - 5}$ (2)

$x + 5$, $x \neq 5$ ✓✓ (2)

3 Simplify: $\frac{x^2 + 5x + 6}{x^2 - 4}$ (3)

$\frac{x + 3}{x - 2}$, $x \neq \pm 2$ ✓✓✓ (3)

4 Simplify: $\frac{6x^2}{3x}$ (1)

$2x$, $x \neq 0$ ✓ (1)

5 Simplify: $\frac{x^2 - 1}{x} \div \frac{x + 1}{3x}$ (4)

$3(x - 1)$, $x \neq 0, x \neq -1$ ✓✓✓✓ (4)

6 Simplify: $\frac{1}{x} + \frac{1}{y}$ (2)

$\frac{y + x}{xy}$, $x \neq 0, y \neq 0$ ✓✓ (2)

7 Simplify: $\frac{2}{x + 1} + \frac{3}{x - 1}$ (3)

$\frac{5x + 1}{x^2 - 1}$, $x \neq \pm 1$ ✓✓✓ (3)

8 Simplify: $\dfrac{x-2}{x^3-8}$ **(3)**

$\dfrac{1}{x^2+2x+4}$, $x \neq 2$ ✓✓✓ (3)

9 Simplify: $\dfrac{x+3}{x^3+27}$ **(3)**

$\dfrac{1}{x^2-3x+9}$, $x \neq -3$ ✓✓✓ (3)

TOTAL: 23 marks

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