MEMORANDUM

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

Date: .....

MARK ____ / 16

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

$\mathbf{2x}$, $x \neq 0$ ✓ (1)

2 Simplify: $\frac{x^2 + 3x}{x}$ (2)

$\frac{x(x+3)}{x} = \mathbf{x + 3}$, $x \neq 0$ ✓✓ (2)

3 Simplify: $\frac{10a^3}{5a}$ (1)

$\mathbf{2a^2}$, $a \neq 0$ ✓ (1)

4 Simplify: $\frac{2x}{3} \times \frac{9}{4x^2}$ (3)

$\frac{18x}{12x^2} = \mathbf{\frac{3}{2x}}$, $x \neq 0$ ✓✓✓ (3)

5 Simplify: $\frac{x}{4} \div \frac{x}{2}$ (2)

$\frac{x}{4} \times \frac{2}{x} = \mathbf{\frac{1}{2}}$, $x \neq 0$ ✓✓ (2)

6 Simplify: $\frac{x}{2} + \frac{x}{3}$ (2)

$\mathbf{\frac{5x}{6}}$ ✓✓ (2)

7 Simplify: $\frac{3}{x} + \frac{2}{5}$ (3)

$\mathbf{\frac{15 + 2x}{5x}}$, $x \neq 0$ ✓✓✓ (3)

8 Why can you not cancel the x in $\dfrac{x^2 + 3x}{x}$ before factorising? **(2)**

> Because cancelling works only on **factors**, not on **terms** that are added. Factorise the top first. ✓✓
> **(2)**

TOTAL: 16 marks

© Danemathics — free to print and share for classroom use.