

Multiplying and Dividing Algebraic Fractions *fluency*

 **Simplify fully**

1 $\frac{2x}{3} \times \frac{9}{x^2}$

2 $\frac{4}{x} \times \frac{x^2}{8}$

3 $\frac{5x^2}{6} \times \frac{3}{10x}$

4 $\frac{x}{4} \times \frac{12}{x^3}$

5 $\frac{7x}{2} \times \frac{4}{21x^2}$

6 $\frac{3x^3}{5} \times \frac{10}{9x}$

 **Simplify fully**

7 $\frac{2x}{3} \div \frac{4x}{9}$

8 $\frac{6}{x} \div \frac{3}{x^2}$

9 $\frac{x^2}{5} \div \frac{x}{15}$

10 $\frac{8x}{3} \div \frac{2x^2}{5}$

11 $\frac{9}{4x} \div \frac{3}{2x^2}$

12 $\frac{5x^3}{2} \div \frac{15x}{4}$

 **Simplify fully**

13 $\frac{x^2 - 4}{x + 3} \times \frac{x + 3}{x - 2}$

14 $\frac{x + 1}{x} \times \frac{x^2}{x^2 - 1}$

15 $\frac{x^2 + 5x + 6}{x + 2} \times \frac{1}{x + 3}$

16 $\frac{3x + 6}{x^2} \times \frac{x}{x + 2}$

17 $\frac{x^2 - 9}{2x} \times \frac{4x}{x - 3}$

18 $\frac{x + 4}{x - 1} \times \frac{x^2 - 1}{x^2 + 4x}$

 **Simplify fully**

19 $\frac{x^2 - 1}{x} \div \frac{x + 1}{x^2}$

20 $\frac{x + 2}{x - 3} \div \frac{x^2 - 4}{x - 3}$

21 $\frac{x^2 + 3x}{x^2 - 9} \div \frac{x}{x - 3}$

22 $\frac{2x + 4}{x^2 - 16} \div \frac{x + 2}{x - 4}$

23 $\frac{x^2 - x - 6}{x} \div \frac{x - 3}{2x}$

24 $\frac{x^2 - 25}{x^2 + 5x} \div \frac{x - 5}{3}$

 **Simplify fully**

25 $\frac{x^2 - 4}{x^2 + x - 6} \times \frac{x + 3}{x}$

26 $\frac{2x^2 + x}{x^2 - 1} \div \frac{2x + 1}{x + 1}$

27 $\frac{x^2 - 2x}{4} \times \frac{8}{x^2 - 4}$

28 $\frac{x^2 + 6x + 9}{x^2 - 9} \div \frac{x + 3}{2}$

29 $\frac{3x - 3}{x^2 + 2x} \times \frac{x^2 - 4}{x^2 - x}$

30 $\frac{x^2 - 16}{x^2 + x} \div \frac{x^2 - 4x}{x + 1}$