

# New GCSE Maths: A4 - Simplifying Algebraic Fractions



Name: .....

Date: .....

What does this simplify to:

$$\frac{5xy^2}{10y}$$

A  $\frac{xy^2}{2y}$        B  $\frac{5xy}{10}$   
 C  $\frac{xy}{2}$        D  $\frac{1}{2}$

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{30p}{12}$$

A  $\frac{10p}{4}$        B  $\frac{5p}{2}$   
 C  $\frac{15p}{6}$        D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{12q + 9}{15}$$

A  $\frac{4q + 3}{5}$        B  $\frac{4q + 9}{5}$   
 C  $\frac{12q + 3}{5}$        D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{6m - 9}{6m - 3}$$

A 3                      B  $\frac{2m - 3}{2m - 1}$   
C  $\frac{m - 3}{m - 1}$               D -3

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{6k + 4}{2k + 6}$$

A  $\frac{3k + 4}{k + 6}$               B  $\frac{5}{3}$   
C  $3 + \frac{4}{6}$                       D  $\frac{3k + 2}{k + 3}$

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{6k + 2}{9k + 4}$$

A  $\frac{8}{13}$                       B  $\frac{2k + 1}{3k + 2}$   
C  $\frac{3k + 1}{4.5k + 2}$               D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{z^2 + z}{6z + 3z^2}$$

A  $\frac{z + 1}{6 + 3z}$               B  $\frac{2z}{9z}$   
C  $\frac{1}{4}$                               D  $\frac{2}{9}$

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{x^2 + 2x - 8}{x + 4}$$

A  $x - 2$        B  $x + 2$   
 C  $\frac{x - 6}{4}$        D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{x^2 - 1}{x - 1}$$

A  $x - 1$        B  $x + 1$   
 C  $x$        D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{m^2 - 4}{2m + 4}$$

A  $-1$        B  $\frac{m - 2}{2}$   
 C  $\frac{m - 1}{3}$        D Does not simplify

Correct Answer: A B C D

Explanation:

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What does this simplify to:

$$\frac{p^2 - 5p + 6}{p^2 + 2p - 15}$$

A  $\frac{p - 2}{p + 5}$        B  $-\frac{2}{5}$   
 C  $-\frac{1}{13}$        D  $\frac{p + 2}{p - 5}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{3g}{2} \times \frac{6g}{9}$$

A 1                      B  $\frac{18g^2}{18}$   
C  $g^2$                       D  $\frac{g}{2}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{3}{10h} \times \frac{8h}{9}$$

A  $\frac{4h}{15}$                       B  $\frac{4h^2}{15}$   
C  $\frac{4}{15}$                       D  $\frac{24h}{90h}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{6x + 3}{7x} \div \frac{2x + 1}{14}$$

A  $\frac{(6x + 3)(2x + 1)}{98x}$                       B  $\frac{2(6x + 3)}{x(2x + 1)}$   
C  $\frac{3}{2x}$                       D  $\frac{6}{x}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{3}{u^2 - 4u + 3} \times \frac{u - 3}{9}$$

A  $\frac{3}{(u - 1)}$                       B  $\frac{1}{3(u - 1)}$   
C  $\frac{3u - 9}{9u^2 - 36u + 27}$                       D  $\frac{27}{(u - 1)}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{7}{3x} - \frac{2}{x}$$

A  $\frac{5}{3x}$       B  $\frac{1}{3x}$   
C  $\frac{5}{3}$       D  $\frac{5}{2x}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{2}{x} + \frac{5}{x}$$

A  $\frac{7x}{x^2}$       B  $\frac{7}{x}$   
C  $\frac{7}{2x}$       D  $\frac{10}{x^2}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{2}{x+1} + \frac{3}{x+2}$$

A  $\frac{5x+7}{(x+1)(x+2)}$       B  $\frac{5}{2x+3}$   
C  $\frac{6}{(x+1)(x+2)}$       D  $\frac{2x+3}{(x+1)(x+2)}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{5}{x-3} - \frac{1}{x+2}$$

A  $\frac{4}{-5}$       B  $\frac{4}{(x-3)(x+2)}$   
C  $\frac{4x+7}{(x-3)(x+2)}$       D  $\frac{4x+13}{(x-3)(x+2)}$

Correct Answer: A B C D

Explanation:

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Write this as a single fraction as simply as possible:

$$\frac{x}{3} + \frac{x}{4}$$

**A**  $\frac{x^2}{7}$

**B**  $\frac{2x}{7}$

**C**  $\frac{7x}{12}$

**D**  $\frac{2x}{12} = \frac{x}{6}$

Correct Answer: A B C D

Explanation:

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