Questions: Introduction to algebraic fractions

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Summary

A selection of questions for the study guide on the introduction to algebraic fractions.

Before attempting these questions, it is highly recommended that you read Guide: Introduction to algebraic fractions.

Q1

For each algebraic fraction, state the restriction(s) on the denominator (the value(s) of x for which the fraction is undefined).

1.1. $\dfrac{3}{x}$

1.2. $\dfrac{5}{x-4}$

1.3. $-\dfrac{2}{2x+1}$

1.4. $\dfrac{x+3}{x+5}$

1.5. $\dfrac{4x}{x(3x-2)}$

1.6. $\dfrac{x-1}{(x+2)(x-3)}$

1.7. $\dfrac{5x+1}{x^2-16}$

1.8. $\dfrac{2}{(x-1)^2}$

1.9. $\dfrac{x}{x^2+4x}$

1.10. $\dfrac{7}{(x+3)(2x-5)}$

1.11. $-\dfrac{x-4}{x^2-5x+6}$

1.12. $\dfrac{2x+3}{x^2+2x-8}$

Q2

Find the missing value ? that makes the two algebraic fractions equivalent.

2.1. $\frac{x}{3} = \frac{?}{9}$

2.2. $\frac{2}{x} = \frac{10}{?}$

2.3. $\frac{x+1}{4} = \frac{?}{12}$

2.4. $\frac{3x}{5} = \frac{?}{20}$

2.5. $\frac{5}{x+2} = \frac{?}{2(x+2)}$

2.6. $\frac{x-3}{x} = \frac{?}{2x}$

2.7. $\frac{4}{x-1} = \frac{12}{?}$

2.8. $\frac{x}{x-4} = \frac{?}{3(x-4)}$

2.9. $\frac{x+5}{2x} = \frac{3(x+5)}{?}$

2.10. $\frac{2x-1}{x+3} = \frac{?}{3(x+3)}$

2.11. $\frac{3}{x} = \frac{3(x+1)}{?}$

2.12. $\frac{x}{x-2} = \frac{x(x+3)}{?}$

2.13. $\frac{4x}{x+1} = \frac{?}{(x+1)^2}$

2.14. $\frac{2x+1}{x-5} = \frac{6x+3}{?}$

2.15. $\frac{5-x}{x+2} = \frac{?}{-2(x+2)}$

Q3

Simplify each algebraic fraction.

3.1. $\frac{8x}{12x}$

3.2. $\frac{5x^2}{15x}$

3.3. $\dfrac{x^2+4x}{x}$

3.4. $\dfrac{3x^2-9x}{6x}$

3.5. $-\dfrac{4x}{10x}$

3.6. $\dfrac{x^2-16}{x-4}$

3.7. $\dfrac{x^2-1}{x+1}$

3.8. $\dfrac{x^2+5x+6}{x+2}$

3.9. $\dfrac{x^2+3x-10}{x-2}$

3.10. $\dfrac{2x^2+7x+3}{x+3}$

3.11. $\dfrac{x^2-10x+25}{x-5}$

3.12. $\dfrac{4-x}{x-4}$

3.13. $\dfrac{2x^2-8}{x^2-4}$

3.14. $\dfrac{x^3-4x}{x^2-4}$

3.15. $\dfrac{x^2-3x-10}{x^2-25}$

After attempting the questions above, please click this link to find the answers.

Version history and licensing

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