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Simplifying Algebraic Fractions

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Examples

Workout

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Question 1: Simplify the following algebraic fractions

(a) $\frac{42xyz}{56}$ (b) $\frac{45ab}{60abc}$ (c) $\frac{16mn}{18n}$ (d) $\frac{40x^2y}{32xy}$

(e) $\frac{17cf}{34c^3}$ (f) $\frac{8x^4}{2x^2}$ (g) $\frac{33a^2b^2}{44a^3b}$ (h) $\frac{12x^3}{20x^7}$

Question 2: Simplify the following algebraic fractions

(a) $\frac{6x+8}{2}$ (b) $\frac{9x-12}{3}$ (c) $\frac{35x^2+20}{5}$

(d) $\frac{7m-70n^3}{7}$ (e) $\frac{10c+25}{15}$ (f) $\frac{8w+2-4x}{12}$

(g) $\frac{9x^2+12x+33}{6}$ (h) $\frac{3x^2+5x}{x}$ (i) $\frac{3x^3-7x^2}{x}$

(j) $\frac{8x^6+x^4+3x}{x}$ (k) $\frac{10x^7+15x^5-30x^4}{5x}$ (l) $\frac{3c^6-15c^4}{6c}$

(m) $\frac{-8x^5-12x^4+2x^3}{-4x}$ (n) $\frac{6c^9-12c^3}{3c^2}$ (o) $\frac{6c^6+2c^2}{4c^4}$

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Question 3: Simplify the following algebraic fractions

(a) $\frac{(x+6)(x+3)}{(x+3)}$

(b) $\frac{(x-1)(x+1)}{(x-1)}$

(c) $\frac{(x-3)}{(x-4)(x-3)}$

(d) $\frac{(x+7)^2}{(x+7)}$

(e) $\frac{(x-3)(x+2)}{(x+2)(x+9)}$

(f) $\frac{(x+2)(x+4)^2}{(x+4)}$

(g) $\frac{(x+1)(x+2)(x+3)}{(x+2)(x+3)(x+4)}$

(h) $\frac{x(x+3)^2}{x(x+1)(x+3)}$

Question 4: Simplify the following algebraic fractions

(a) $\frac{x^2+5x+4}{x^2+4x+3}$

(b) $\frac{x^2+6x+9}{x^2-2x-15}$

(c) $\frac{x^2-2x}{x^2+2x-8}$

(d) $\frac{x^2-7x+10}{x^2+3x-10}$

(e) $\frac{x^2+8x+15}{x^2-x-12}$

(f) $\frac{x^2+13x+40}{x^2+14x+48}$

(g) $\frac{x^2-2x-8}{x^2+6x-40}$

(h) $\frac{x^2+10x+24}{x^2-36}$

(i) $\frac{x^2+4x-45}{x^2+10x+9}$

(j) $\frac{x^2+11x}{x^2-121}$

(k) $\frac{x^2-1}{x^2+x}$

(l) $\frac{x^2-15x+44}{x^2-16}$

(m) $\frac{x^2-x-6}{x^2-2x-3}$

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Question 5: Simplify the following algebraic fractions

(a) $\frac{3x^2 + 7x + 4}{x^2 + 3x + 2}$

(b) $\frac{x^2 - 2x - 8}{3x^2 + 7x + 2}$

(c) $\frac{5x^2 - 13x - 6}{x^2 - 9}$

(d) $\frac{2x^2 + 3x - 2}{2x^2 - 15x + 7}$

(e) $\frac{9x^2 - 1}{3x^2 - 13x + 4}$

(f) $\frac{x^2 + 17x + 70}{5x^2 + 38x + 21}$

(g) $\frac{3x^2 + 5x - 12}{12x^2 - 19x + 4}$

(h) $\frac{3x^2 + 11x + 6}{9x^2 + 21x + 10}$

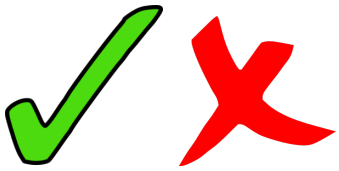
(i) $\frac{4x^2 + x - 3}{4x^2 + 9x + 5}$

(j) $\frac{9x^2 - 30x + 25}{6x^2 + 5x - 25}$

(k) $\frac{10x^2 - 23x + 12}{4x^2 + 4x - 15}$

(l) $\frac{20x^2 + 21x + 4}{16x^2 - 1}$

Answers



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