

Aufgaben zum Kürzen von Bruchtermen

1.0 Kürzen Sie so weit wie möglich.

$$1.1 \quad \frac{12uv^3w^2}{144u^2v^3w} \quad \bigcirc$$

$$1.2 \quad \frac{6x+x^2}{x+6} \quad \bigcirc$$

$$1.3 \quad \frac{3ax^2-3a^2x^2}{a^3x^2-a^2x^2} \quad \textcircled{/}$$

$$1.4 \quad \frac{45s^5t^2+4s^3t^4}{s^4t^2-82s^3t^3} \quad \textcircled{/}$$

$$1.5 \quad \frac{98mnu^2-42m^2n^2u}{112mn^2u+84mn^2u^2} \quad \textcircled{/}$$

$$1.6 \quad \frac{ax-ay+bx-by}{2ay-2ax} \quad \textcircled{/}$$

$$1.7 \quad \frac{12x^2-36x-8xy+24y}{4x^2-12x} \quad \textcircled{/}$$

$$1.8 \quad \frac{1-x^2}{1+x} \quad \bigcirc$$

$$1.9 \quad \frac{4u-u^3}{3u-6} \quad \textcircled{/}$$

$$1.10 \quad \frac{4ab-4ab^2}{1-b^2} \quad \textcircled{/}$$

$$1.11 \quad \frac{a^4-16b^4}{a+2b} \quad \textcircled{/}$$

$$1.12 \quad \frac{25x^2-9y^2}{25x^2-30xy+9y^2} \quad \textcircled{/}$$

$$1.13 \quad \frac{x^3-9y^2x}{12xy-18y^2-2x^2} \quad \textcircled{/}$$

$$1.14 \quad \frac{a^3-2a^2+a}{a^2-a^4} \quad \textcircled{/}$$

$$1.15 \quad \frac{8xy^2+20y^3}{40xy^2+8yx^2+50y^3} \quad \textcircled{/}$$

$$1.16 \quad \frac{121a^6+225b^4-330a^3b^2}{121a^6-225b^4} \quad \textcircled{/}$$

Lösungen

$$1.1 \quad \frac{w}{12u} \quad D: u \neq 0; v \neq 0; w \neq 0$$

$$1.2 \quad x \quad D = \mathbb{R} \setminus \{-6\}$$

$$1.3 \quad -\frac{3}{a} \quad D: a \neq 0; x \neq 0; a \neq 1$$

$$1.4 \quad \frac{45s^2 + 4t^2}{s - 82t} \quad D: s \neq 0; t \neq 0; s - 82t \neq 0$$

$$1.5 \quad \frac{7u - 3mn}{8n - 6nu} \quad D: m \neq 0; n \neq 0; u \neq 0; 4 + 3u \neq 0$$

$$1.6 \quad -\frac{a+b}{2a} \quad D: a \neq 0; y - x \neq 0$$

$$1.7 \quad \frac{3x - 2y}{x} \quad D = \mathbb{R} \setminus \{0; 3\}$$

$$1.8 \quad 1 - x \quad D = \mathbb{R} \setminus \{-1\}$$

$$1.9 \quad \frac{-u(u+2)}{3} \quad D = \mathbb{R} \setminus \{2\}$$

$$1.10 \quad \frac{4ab}{1+b} \quad D = \mathbb{R} \setminus \{-1; 1\}$$

$$1.11 \quad (a^2 + 4b^2)(a - 2b) \quad D: a + 2b \neq 0$$

$$1.12 \quad \frac{5x + 3y}{5x - 3y} \quad D: 5x - 3y \neq 0$$

$$1.13 \quad \frac{x(x+3y)}{2(-x+3y)} \quad D: x - 3y \neq 0$$

$$1.14 \quad \frac{1-a}{a(a+1)} \quad D = \mathbb{R} \setminus \{-1; 0; 1\}$$

$$1.15 \quad \frac{2y}{2x+5y} \quad D: 5y + 2x \neq 0$$

$$1.16 \quad \frac{11a^3 - 15b^2}{11a^3 + 15b^2} \quad D: 11a^3 - 15b^2 \neq 0; 11a^3 + 15b^2 \neq 0$$