

DIVIDING RATIONAL EXPRESSIONS WORKSHEET

Simplify the following

1. $\frac{x}{8-4x} \div \frac{x^2}{6-3x}$

2. $\frac{1}{2x} \div \frac{8x}{2x^2+16x}$

3. $\frac{6x-2}{x} \div \frac{6x+3}{6x}$

4. $\frac{x^3-8}{x^2-4} \div \frac{x^2-9}{x^2+5x+6}$

5. $\frac{9x^2-4}{27x^3-8} \div \frac{3x+2}{3x-2}$

6. $\frac{2x}{x^2-1} \div \frac{5}{x+1}$

7. $\frac{x^2-3}{x^3} \div \frac{x^2}{x^2+3x+1}$

8. $\frac{3x+12}{12x} \div \frac{x+4}{48x^3}$

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Answers

1. $\frac{x}{8-4x} \div \frac{x^2}{6-3x}$

2. $\frac{1}{2x} \div \frac{8x}{2x^2+16x}$

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

3. $\frac{6x-2}{x} \div \frac{6x+3}{6x}$

$$\frac{x+8}{8x}$$

4. $\frac{x^3-8}{x^2-4} \div \frac{x^2-9}{x^2+5x+6}$

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

5. $\frac{9x^2-4}{27x^3-8} \div \frac{3x+2}{3x-2}$

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

6. $\frac{2x}{x^2-1} \div \frac{5}{x+1}$

$$\frac{3x-2}{9x^2+6x+4}$$

7. $\frac{x^2-3}{x^3} \div \frac{x^2}{x^2+3x+1}$

$$\frac{2x}{5(x-1)}$$

8. $\frac{3x+12}{12x} \div \frac{x+4}{48x^3}$

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

$$12x^2$$