

**denominator with a 'quadratic expression as a factor'**

decompose the following expressions:

1.

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

2.

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

3.

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

4.

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

5.

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

6.

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

7.

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

8.

$$\frac{5-3x}{(1-x)(7-2x^2)}$$

9.

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

10.

$$\frac{2-2x}{(5-3x^2)(x-1)}$$

## denominator with a 'quadratic expression as a factor'

answers:

1. 
$$\frac{1}{10(x-3)} - \frac{x+3}{10(x^2+1)}$$
2. 
$$\frac{1}{2(x-1)} + \frac{3}{2(x+1)} - \frac{2}{x+2}$$
3. 
$$\frac{1}{3(x-2)} - \frac{x-4}{3(x^2+5)}$$
4. 
$$\frac{x+17}{7(x^2-2)} - \frac{2}{7(2x+1)}$$
5. 
$$\frac{4}{45(4x-1)} - \frac{2}{15(x+1)} + \frac{1}{9(x-1)}$$
6. 
$$\frac{6}{13(2x+1)} - \frac{15x-1}{13(5x^2+2)}$$
7. 
$$\frac{8}{23(2x-3)} - \frac{12x-5}{23(3x^2-1)}$$
8. 
$$\frac{4x-11}{5(2x^2-7)} - \frac{2}{5(x-1)}$$
9. 
$$\frac{15}{7(2x+3)} - \frac{5(3x-1)}{7(2x^2-1)}$$
10. 
$$\frac{2}{3x^2-5}$$