

## Rational Expressions

Simplify the following Rational Expressions

1.  $\frac{6x}{4x}$

2.  $\frac{6x}{8x}$

3.  $\frac{9xy}{3x^2}$

4.  $\frac{6xy}{3x^3}$

5.  $\frac{24x^2y}{8xy^3}$

6.  $\frac{22xy^2}{20xy}$

7.  $\frac{15x^4y^6}{35xy^2}$

8.  $\frac{25x^3y^3}{35xy^2}$

9.  $\frac{16xyz}{8xy^3}$

10.  $\frac{16xy^2z}{4xy^3}$

11.  $\frac{4x-8}{x^2-4}$

12.  $\frac{8x-32}{x^2-16}$

13.  $\frac{x^2+2x+1}{x^2-1}$

14.  $\frac{x^2+2x+1}{3x^2-x-14}$

15.  $\frac{6x+12}{6x-18}$

16.  $\frac{5x-30}{5x+5}$

17.  $\frac{x^2-16}{x^2-x-20}$

18.  $\frac{x^2-4}{x^2+5x+6}$

19.  $\frac{3x^2+9x-12}{6x^2-30x+24}$

20.  $\frac{2x^2-6x+4}{4x^2+12x-16}$

21.  $\frac{x-2}{x^3-8}$

22.  $\frac{x-4}{x^3-64}$

23.  $\frac{x^3+1}{x+1}$

24.  $\frac{x^3+125}{x+5}$

25.  $\frac{4x^2-12x+9}{10x^2-11x-6}$

26.  $\frac{4x^2-4x+1}{6x^2+5x-4}$

27.  $\frac{10-x}{x-10}$

28.  $\frac{9-x}{x-9}$

29.  $\frac{5x^2+20}{10x^2+40}$

30.  $\frac{6x^2+54}{4x^2+36}$

31.  $\frac{3x^2-3y^2}{2y^2-2x^2}$

32.  $\frac{5y^2-5x^2}{6x^2-2y^2}$

$$33. \frac{8x^3 - 32x}{x^3 - 16x}$$

$$35. \frac{x^3 + 2x^2 + x}{3x^3 - x^2 - 14x}$$

$$37. \frac{2x^3 - 6x^2 + 4x}{4x^3 + 12x^2 - 16x}$$

$$39. \frac{4x^4 - 4x^3 + x^2}{6x^4 + 5x^3 - 4x^2}$$

$$34. \frac{4x^2 - 8x}{x^3 - 4x}$$

$$36. \frac{x^3 + 2x^2 + x}{x^3 - x}$$

$$38. \frac{3x^3 + 9x^2 - 12x}{6x^3 - 30x^2 + 24x}$$

$$40. \frac{4x^4 - 12x^3 + 9x^2}{10x^4 - 11x^3 - 6x^2}$$