

Simplifying Rational Expressions

Simplify each expression.

1)
$$-\frac{36x^3}{42x^2}$$
$$-\frac{6x}{7}$$

2)
$$\frac{16r^2}{16r^3}$$
$$\frac{1}{r}$$

3)
$$\frac{16p^2}{28p}$$
$$\frac{4p}{7}$$

4)
$$\frac{32n^2}{24n}$$
$$\frac{4n}{3}$$

5)
$$-\frac{70n^2}{28n}$$
$$-\frac{5n}{2}$$

6)
$$\frac{15n}{30n^3}$$
$$\frac{1}{2n^2}$$

7)
$$\frac{2r-4}{r-2}$$
$$2$$

8)
$$\frac{45}{10a-10}$$
$$\frac{9}{2(a-1)}$$

9)
$$\frac{x-4}{3x^2-12x}$$
$$\frac{1}{3x}$$

10)
$$\frac{15a-3}{24}$$
$$\frac{5a-1}{8}$$

11)
$$\frac{v-5}{v^2-10v+25}$$
$$\frac{1}{v-5}$$

12)
$$\frac{x+6}{x^2+5x-6}$$
$$\frac{1}{x-1}$$

$$13) \frac{27}{27x+18}$$

$$\frac{3}{3x+2}$$

$$14) \frac{v^2 - 7v - 30}{v^2 - 5v - 24}$$

$$\frac{v-10}{v-8}$$

$$15) \frac{x^2 + 8x + 12}{x^2 + 3x - 18}$$

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

$$16) \frac{x^2 - 11x + 18}{x^2 + 2x - 8}$$

$$\frac{x-9}{x+4}$$

$$17) \frac{b^2 + 3b - 28}{b^2 - 49}$$

$$\frac{b-4}{b-7}$$

$$18) \frac{v^2 - 3v - 40}{v^2 - 11v + 24}$$

$$\frac{v+5}{v-3}$$

$$19) \frac{4n-4}{6n-20}$$

$$\frac{2(n-1)}{3n-10}$$

$$20) \frac{v^2 - 5v - 14}{v^2 + 4v + 4}$$

$$\frac{v-7}{v+2}$$

$$21) \frac{6v^3 + 42v^2}{2v^2 + 26v + 84}$$

$$\frac{3v^2}{v+6}$$

$$22) \frac{x^3 - x^2 - 42x}{2x^2 - 20x + 42}$$

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

$$23) \frac{2v^2 + 10v - 48}{8v + 64}$$

$$\frac{v-3}{4}$$

$$24) \frac{9x^2 + 81x}{x^3 + 8x^2 - 9x}$$

$$\frac{9}{x-1}$$

$$25) \frac{x^2 + 2x - 80}{2x^3 - 24x^2 + 64x}$$

$$\frac{x+10}{2x(x-4)}$$

$$26) \frac{3r^2 - 39r + 90}{r^2 - 3r - 70}$$

$$\frac{3(r-3)}{r+7}$$