

Simplifying Rational Expressions

Simplify each expression.

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

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

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

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

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

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

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

8) $\frac{45}{10a-10}$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Simplifying Rational Expressions

Simplify each expression.

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

$$-\frac{6x}{7}$$

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

$$\frac{1}{r}$$

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

$$\frac{4p}{7}$$

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

$$\frac{4n}{3}$$

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

$$-\frac{5n}{2}$$

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

$$\frac{1}{2n^2}$$

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

$$2$$

$$8) \frac{45}{10a-10}$$

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

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

$$\frac{1}{3x}$$

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

$$\frac{5a-1}{8}$$

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

$$\frac{1}{v-5}$$

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

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

$$13) \frac{27}{27x + 18}$$
$$\frac{3}{3x + 2}$$

$$14) \frac{v^2 - 7v - 30}{v^2 - 5v - 24}$$
$$\frac{v - 10}{v - 8}$$

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

$$16) \frac{x^2 - 11x + 18}{x^2 + 2x - 8}$$
$$\frac{x - 9}{x + 4}$$

$$17) \frac{b^2 + 3b - 28}{b^2 - 49}$$
$$\frac{b - 4}{b - 7}$$

$$18) \frac{v^2 - 3v - 40}{v^2 - 11v + 24}$$
$$\frac{v + 5}{v - 3}$$

$$19) \frac{4n - 4}{6n - 20}$$
$$\frac{2(n - 1)}{3n - 10}$$

$$20) \frac{v^2 - 5v - 14}{v^2 + 4v + 4}$$
$$\frac{v - 7}{v + 2}$$

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

$$22) \frac{x^3 - x^2 - 42x}{2x^2 - 20x + 42}$$
$$\frac{x(x + 6)}{2(x - 3)}$$

$$23) \frac{2v^2 + 10v - 48}{8v + 64}$$
$$\frac{v - 3}{4}$$

$$24) \frac{9x^2 + 81x}{x^3 + 8x^2 - 9x}$$
$$\frac{9}{x - 1}$$

$$25) \frac{x^2 + 2x - 80}{2x^3 - 24x^2 + 64x}$$
$$\frac{x + 10}{2x(x - 4)}$$

$$26) \frac{3r^2 - 39r + 90}{r^2 - 3r - 70}$$
$$\frac{3(r - 3)}{r + 7}$$