

Dividing Rational Expressions

Simplify each expression.

1) $\frac{10n}{9} \div \frac{13n^2}{16}$

2) $\frac{16n}{17} \div \frac{8n}{6}$

3) $\frac{2}{7} \div \frac{18}{8x^2}$

4) $\frac{12}{7} \div \frac{4}{11r}$

5) $\frac{7}{18} \div \frac{6}{9a}$

6) $\frac{5}{20} \div \frac{5x}{3}$

7) $\frac{4n}{n-6} \div \frac{4n}{8n-48}$

8) $\frac{3}{28b} \div \frac{3}{b+1}$

9) $\frac{7a^2}{7a^3 + 56a^2} \div \frac{2}{a^2 + 7a - 8}$

10) $\frac{6}{28x+4} \div \frac{6}{35x+5}$

$$11) \frac{x^2 + 10x + 16}{x^2 + 6x + 8} \div \frac{1}{x + 4}$$

$$12) \frac{49x + 21}{6x} \div \frac{42x + 18}{6}$$

$$13) \frac{7}{8r - 40} \div \frac{1}{8r - 40}$$

$$14) \frac{1}{2a} \div \frac{8a}{2a^2 + 16a}$$

$$15) \frac{8}{4n^2 - 16n} \div \frac{1}{n - 4}$$

$$16) \frac{a - 4}{a^2 - 2a - 8} \div \frac{1}{a - 5}$$

$$17) \frac{b^2 - 2b - 15}{8b + 20} \div \frac{2}{4b + 10}$$

$$18) \frac{10b^2 + 42b + 36}{6b^2 - 2b - 60} \div \frac{40b + 48}{3b^2 - 13b + 10}$$

$$19) \frac{16x - 56}{8} \div \frac{8x - 28}{4}$$

$$20) \frac{10x^2 - 28x + 16}{2x - 4} \div \frac{25x^2 - 25x + 4}{5x^2 - 41x + 8}$$

$$21) \frac{6p + 27}{18p^2 + 36p} \div \frac{16p + 72}{2p + 4}$$

$$22) \frac{3x^2 - 25x - 18}{27x + 18} \div \frac{5x - 3}{5x^2 - 33x + 18}$$

Dividing Rational Expressions

Simplify each expression.

1) $\frac{10n}{9} \div \frac{13n^2}{16}$

$$\frac{160}{117n}$$

2) $\frac{16n}{17} \div \frac{8n}{6}$

$$\frac{12}{17}$$

3) $\frac{2}{7} \div \frac{18}{8x^2}$

$$\frac{8x^2}{63}$$

4) $\frac{12}{7} \div \frac{4}{11r}$

$$\frac{33r}{7}$$

5) $\frac{7}{18} \div \frac{6}{9a}$

$$\frac{7a}{12}$$

6) $\frac{5}{20} \div \frac{5x}{3}$

$$\frac{3}{20x}$$

7) $\frac{4n}{n-6} \div \frac{4n}{8n-48}$

$$8$$

8) $\frac{3}{28b} \div \frac{3}{b+1}$

$$\frac{b+1}{28b}$$

9) $\frac{7a^2}{7a^3 + 56a^2} \div \frac{2}{a^2 + 7a - 8}$

$$\frac{a-1}{2}$$

10) $\frac{6}{28x+4} \div \frac{6}{35x+5}$

$$\frac{5}{4}$$

$$11) \frac{x^2 + 10x + 16}{x^2 + 6x + 8} \div \frac{1}{x + 4}$$

$$x + 8$$

$$12) \frac{49x + 21}{6x} \div \frac{42x + 18}{6}$$

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

$$13) \frac{7}{8r - 40} \div \frac{1}{8r - 40}$$

$$7$$

$$14) \frac{1}{2a} \div \frac{8a}{2a^2 + 16a}$$

$$\frac{a + 8}{8a}$$

$$15) \frac{8}{4n^2 - 16n} \div \frac{1}{n - 4}$$

$$\frac{2}{n}$$

$$16) \frac{a - 4}{a^2 - 2a - 8} \div \frac{1}{a - 5}$$

$$\frac{a - 5}{a + 2}$$

$$17) \frac{b^2 - 2b - 15}{8b + 20} \div \frac{2}{4b + 10}$$

$$\frac{(b + 3)(b - 5)}{4}$$

$$18) \frac{10b^2 + 42b + 36}{6b^2 - 2b - 60} \div \frac{40b + 48}{3b^2 - 13b + 10}$$

$$\frac{b - 1}{8}$$

$$19) \frac{16x - 56}{8} \div \frac{8x - 28}{4}$$

$$1$$

$$20) \frac{10x^2 - 28x + 16}{2x - 4} \div \frac{25x^2 - 25x + 4}{5x^2 - 41x + 8}$$

$$x - 8$$

$$21) \frac{6p + 27}{18p^2 + 36p} \div \frac{16p + 72}{2p + 4}$$

$$\frac{1}{24p}$$

$$22) \frac{3x^2 - 25x - 18}{27x + 18} \div \frac{5x - 3}{5x^2 - 33x + 18}$$

$$\frac{(x - 9)(x - 6)}{9}$$