

Dividing Rational Expressions

Simplify each expression.

1) $\frac{3}{8v} \div \frac{5}{9v}$

2) $\frac{8n}{7n^5} \div \frac{2n}{9n^4}$

3) $\frac{x-9}{(x-3)(x+3)} \div \frac{x-9}{5x^2(x+3)}$

4) $\frac{8(10-x)}{(x+1)(x-10)} \div \frac{x-8}{(x-8)(x+1)}$

5) $\frac{r^2+2r-63}{r-10} \div \frac{r^2-11r+28}{r-10}$

6) $\frac{6v^3+18v^2}{6v^2} \div \frac{v+3}{6v^2}$

7) $\frac{10a-20}{10} \div \frac{a^2+7a-18}{10}$

8) $\frac{9}{9p+18} \div \frac{1}{p-4}$

9) $\frac{1}{2m+10} \div \frac{7m^2}{4m^2+20m}$

10) $\frac{3v-1}{7v^2-58v-45} \div \frac{3v-1}{7v^2-2v-5}$

11) $\frac{12b^3+24b^2}{9b^2-72b} \div \frac{4b^2+26b+36}{2b+9}$

12) $\frac{21a-63}{9a^2-36a+27} \div \frac{1}{27a-27}$

13) $\frac{14a+6}{6a^2-20a} \div \frac{14a^2+13a+3}{6a^2-17a-10}$

14) $\frac{25x-30}{7x-14} \div \frac{25x^2-10x-24}{35x+28}$

Answers to Dividing Rational Expressions

$$1) \frac{27}{40}$$

$$5) \frac{r+9}{r-4}$$

$$9) \frac{2}{7m}$$

$$13) \frac{1}{a}$$

$$2) \frac{36}{7n}$$

$$6) 6v^2$$

$$10) \frac{v-1}{v-9}$$

$$14) \frac{5}{x-2}$$

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

$$7) \frac{10}{a+9}$$

$$11) \frac{2b}{3(b-8)}$$

$$4) -8$$

$$8) \frac{p-4}{p+2}$$

$$12) 63$$