

11-2 Practice

Form K

Multiplying and Dividing Rational Expressions

Multiply.

1. $\frac{5n^2}{3n^2} \square \frac{3}{n}$

2. $\frac{t}{t-3} \square \frac{t+1}{t+2}$

3. $\frac{3a-9}{3a-6} \square \frac{a}{a^2-9}$

4. $\frac{18q-36}{2q} \square \frac{4q^2}{54q-18}$

5. $\frac{m^2-m-20}{m^2-4m} \square \frac{2m^2}{m^2-25}$

6. $\frac{8v}{6v^2+22v-8} \square \frac{3v-1}{4v^2}$

7. $\frac{z^2}{z^2+5z-6} \square \frac{2z^2-7z+5}{6z^2-15z}$

8. $(3x^2+7x+4) \square \frac{x^2-4x}{9x^2-16x}$

9. Which of the following is the reciprocal of $x^2 - 2x - 63$?

a. $\frac{1}{(x+7)(x-9)}$

b. $(x+7)(x-9)$

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

Find the reciprocal of each expression.

10. $x^2 - 2x - 15$

11. $\frac{6p^2}{7p^2-12}$

11-2 Practice (continued)

Multiplying and Dividing Rational Expressions

Form K

Divide.

12. $\frac{6f-6}{3f-8} \div \frac{6f-6}{f+9}$

13. $\frac{12m-20}{27m} \div \frac{3m-5}{9m}$

14. $\frac{18c-27}{9t^2-16} \div \frac{2c-3}{3t+4}$

15. $\frac{2x^2-23x+56}{10x+6} \div \frac{x-8}{5x+3}$

Simplify each complex fraction.

16. $\frac{\frac{1}{x-3}}{\frac{3}{x-3}}$

17. $\frac{\frac{m}{n}+2}{\frac{m}{n}+5}$

18. A shipping box has a base area of $4x^2 + 52x + 168$ and a height of $\frac{x}{4x+28}$. what is the volume of the box?

19. Karl drives for $(x^2 - 100)$ hours at a rate of $\frac{1}{5x-50}$ miles per hour. How far does Karl drive?

20. **Open-Ended** Write two rational expressions whose product is 1.