Multiplying and Dividing Rational Expressions - Guided Lesson Explanation

Explanation#1

$$\frac{3m - 5}{7m + 2} \times (5m + 7)$$

$\frac{3m - 5}{7m + 2} \times \frac{(5m +7)}{1}$ Rewrite the second expression as a fraction.

$\frac{15m^2 -4m - 35}{7m + 2}$

Multiply the numerators and multiply the denominators.

Answer is: $\frac{15m^2 -4m - 35}{7m + 2}$

Explanation#2

To divide by a fraction, multiply by its reciprocal.

$\frac{2c + 2}{8c - 6} \div (6c - 2)$ Rewrite the second expression as a fraction.

$\frac{2c + 2}{8c - 6} \times \frac{1}{6c - 2}$ To divide, multiply by the reciprocal

$\frac{2c+2}{(8c - 6)(6c-2)}$ Multiply the numerators and multiply the denominators.

The answer is $\frac{2c + 2}{(8c - 6)(6c-2)}$, which can also be written as

$\frac{c + 1}{24c^2 - 26c + 6}$

Name _____   Date _____

Explanation#3

$$\frac{6y + 7}{6y + 6} \div (5y - 6)$$

$$\frac{6y + 7}{6y + 6} \times \frac{1}{(5y - 6)}$$ Rewrite the second expression as a fraction.

$$\frac{6y + 7}{30y^2 - 6y - 36}$$ multiply the numerators and multiply the denominators.

Answer is: $$\frac{6y + 7}{30y^2 - 6y - 36}$$