

Dividing Fractional Expressions

* Be sure your answer is simplified.

✓ ①

$$\frac{7}{10} \div \frac{21}{15} =$$
$$\frac{7}{10} \cdot \frac{15}{21} = \frac{\overset{1}{\cancel{7}} \cdot \overset{1}{\cancel{3}} \cdot \overset{1}{\cancel{5}}}{\underset{2}{\cancel{2}} \cdot \underset{3}{\cancel{3}} \cdot \underset{7}{\cancel{7}}} = \frac{1}{2}$$

✓ ②

$$\frac{7x^2}{30} \div \frac{4x^2}{5} =$$
$$\frac{7x^2}{30} \cdot \frac{5}{4x^2} = \frac{7 \cdot \cancel{5} \cdot \cancel{x^2}}{30 \cdot 4 \cdot \cancel{x^2}} = \frac{7 \cdot \cancel{5}}{6 \cdot \cancel{5} \cdot 4} = \frac{7}{24}$$

✓ ③

$$\frac{21a^3}{1} \div \frac{3a}{14} =$$
$$\frac{21a^3}{1} \cdot \frac{14}{3a} = \frac{21 \cdot 14 \cdot \overset{3}{\cancel{a^3}}}{\underset{3}{\cancel{3}} \cdot \overset{1}{\cancel{a}}} = \frac{\cancel{3} \cdot 7 \cdot 14 \cdot a^2}{\cancel{3}} = 98a^2$$

$\frac{21}{98} = \frac{7}{14}$