

Intro to Rational Operations - Simplify, Multiply, and Divide

Period _____

Simplify each and state the excluded values.

1) $-\frac{10p^2}{16p}$

2) $\frac{6x + 24}{12x}$

3) $\frac{7x^3 + 28x^2}{x^2 + 6x + 8}$

4) $\frac{3m^3 - 39m^2 + 90m}{9m^2 - 72m - 180}$

Simplify each expression.

5) $\frac{4}{5r} \cdot \frac{6r^2}{2}$

6) $\frac{2x}{2x^4} \div \frac{10}{9x}$

7) $\frac{-x^2 + 10x - 24}{4 - x} \cdot \frac{7x}{x - 6}$

8) $\frac{49 - n^2}{n^2 + 10n + 21} \cdot \frac{n + 5}{n^2 - 14n + 49}$

9) $\frac{4b^2}{b^2 - 15b + 56} \div \frac{1}{b - 8}$

10) $\frac{v^2 + 9v + 20}{v^2 - 2v - 24} \div \frac{6v - 36}{v - 6}$

11) $\frac{\frac{n - 8}{24 - 3n}}{\frac{1}{n + 4}}$

12) $\frac{\frac{4}{x - 5}}{\frac{4x - 20}{x - 3}}$

13) Classwork / Homework: Pg 531 #9-29 odd only

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Period _____

Simplify each and state the excluded values.

$$1) -\frac{10p^2}{16p}$$

$$-\frac{5p}{8}; \{0\}$$

$$2) \frac{6x + 24}{12x}$$

$$\frac{x + 4}{2x}; \{0\}$$

$$3) \frac{7x^3 + 28x^2}{x^2 + 6x + 8}$$

$$\frac{7x^2}{x + 2}; \{-4, -2\}$$

$$4) \frac{3m^3 - 39m^2 + 90m}{9m^2 - 72m - 180}$$

$$\frac{m(m - 3)}{3(m + 2)}; \{10, -2\}$$

Simplify each expression.

$$5) \frac{4}{5r} \cdot \frac{6r^2}{2}$$

$$\frac{12r}{5}$$

$$6) \frac{2x}{2x^4} \div \frac{10}{9x}$$

$$\frac{9}{10x^2}$$

$$7) \frac{-x^2 + 10x - 24}{4 - x} \cdot \frac{7x}{x - 6}$$

$$7x$$

$$8) \frac{49 - n^2}{n^2 + 10n + 21} \cdot \frac{n + 5}{n^2 - 14n + 49}$$

$$-\frac{(n + 5)}{(n + 3)(n - 7)}$$

$$9) \frac{4b^2}{b^2 - 15b + 56} \div \frac{1}{b - 8}$$

$$\frac{4b^2}{b - 7}$$

$$10) \frac{v^2 + 9v + 20}{v^2 - 2v - 24} \div \frac{6v - 36}{v - 6}$$

$$\frac{v + 5}{6(v - 6)}$$

$$11) \frac{\frac{n - 8}{24 - 3n}}{\frac{1}{n + 4}}$$

$$-\frac{(n + 4)}{3}$$

$$12) \frac{\frac{4}{x - 5}}{\frac{4x - 20}{x - 3}}$$

$$\frac{x - 3}{x^2 - 10x + 25}$$

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