

Name: _____

Divide the Rational Expressions

$$1 \quad \frac{x^2 - 16}{x^2 - 10x + 25} \div \frac{3x - 12}{x^2 - 3x - 10}$$

$$2 \quad \frac{x^3 + 9x + 14}{x^2 - 49} \div \frac{3x + 6}{x^2 + x - 56}$$

$$3 \quad \frac{x^2 - x - 2}{2x^2 - 5x + 2} \div \frac{x^3 - x - 12}{2x^2 + 5x - 3}$$

$$4 \quad \frac{2}{3x} \div \frac{7}{8x}$$

$$5 \quad \frac{x - 4}{x^2 - 2x - 8} \div \frac{1}{x - 5}$$

$$6 \quad \frac{20x}{16} \div \frac{2x^3}{3x}$$

$$7 \quad \frac{7x^2}{7x^3 + 56x^2} \div \frac{2}{x^2 + 7x - 8}$$

$$8 \quad \frac{2x^2 - x - 15}{x^2 - 2x - 3} \div \frac{2x^2 + 3x - 5}{1 - x^2}$$

Divide the Rational Expressions

Answers

$$1 \quad \frac{x^2 - 16}{x^2 - 10x + 25} \div \frac{3x - 12}{x^2 - 3x - 10}$$

$$\frac{(x + 2)(x + 4)}{3(x - 5)}$$

$$2 \quad \frac{x^3 + 9x + 14}{x^2 - 49} \div \frac{3x + 6}{x^2 + x - 56}$$

$$\frac{x + 8}{3}$$

$$3 \quad \frac{x^2 - x - 2}{2x^2 - 5x + 2} \div \frac{x^3 - x - 12}{2x^2 + 5x - 3}$$

$$\frac{(x + 1)(x + 3)}{x^3 - x - 12}$$

$$4 \quad \frac{2}{3x} \div \frac{7}{8x}$$

$$\frac{16}{21}$$

$$5 \quad \frac{x - 4}{x^2 - 2x - 8} \div \frac{1}{x - 5}$$

$$6 \quad \frac{20x}{16} \div \frac{2x^3}{3x}$$

$$\frac{x - 5}{x + 2}$$

$$\frac{15}{8x}$$

$$7 \quad \frac{7x^2}{7x^3 + 56x^2} \div \frac{2}{x^2 + 7x - 8}$$

$$8 \quad \frac{2x^2 - x - 15}{x^2 - 2x - 3} \div \frac{2x^2 + 3x - 5}{1 - x^2}$$

$$\frac{x - 1}{2}$$