

$$1 \quad \frac{2y-14}{y^2-2y-35} \div \frac{6y-30}{y^2-25} = \frac{2(y-7)}{(y-7)(y+5)} \div \frac{6y-30}{y^2-25}$$

$$\frac{2}{y+5} \div \frac{6y-30}{y^2-25} = \frac{2}{y+5} \div \frac{6y-30}{y^2-25} = \frac{2}{y+5} \div \frac{6(y-5)}{y^2-25}$$

$$\frac{2}{y+5} \div \frac{6(y-5)}{(y+5)(y-5)} = \frac{2}{y+5} \div \frac{6}{y-5} = \frac{2}{y+5} \times \frac{y-5}{6}$$

$$\frac{1}{3}$$

$$2 \quad \frac{9x-27}{5x+30} \div \frac{6x^2-18}{14-7x} = \frac{9(x-3)}{5(x+2)} \div \frac{6x^2-18}{14-7x}$$

$$\frac{3(x-3)}{5(x+2)} \div \frac{6x^2-18}{14-7x} = \frac{3(x-3)}{5(x+2)} \times \frac{14-7x}{6x^2-18}$$

$$\frac{3(x-3)}{5(x+2)} \times \frac{7(2-x)}{6x^2-3} = \frac{x-3}{5(x+2)} \times \frac{7(2-x)}{2(x^2-3)} =$$

$$\frac{(x-3)}{5(x+2)} \times \frac{7(2-x)}{2(x^2-3)} = \frac{(x-3)}{10(x+2)} \times \frac{7(2-x)}{(x^2-3)} = \frac{(7x-7x^3)(2-x)}{(10x+20)(x^2-3)}$$

$$\frac{(7 \times 27)(2-x)}{(10x+20)(x^2-3)}$$

$$3 \frac{25x^3y^4}{36m^4n} \div \frac{10x^2y^3}{18m^2n} = \frac{25x^3y^4}{36m^4n} \times \frac{18m^2n}{10x^2y^3}$$

$$\frac{25x^3y^4}{36m^4n} \times \frac{9m^2n}{5x^2y^3} = \frac{5xy}{4m^2}$$

$$4 \frac{6xy}{5y^2} \div \frac{3x}{10y} = \frac{6xy}{5y^2} \times \frac{10y}{3x} = 2 \times 2 = 4$$

$$5 \frac{8m}{8n^2} \div \frac{9m}{16n} = \frac{8m}{8n^2} \times \frac{16n}{9m} = \frac{1}{n} \times \frac{2}{3} = \frac{2}{3n}$$

2

3n