

$$1) \frac{2x+4}{x+y} \cdot \frac{x^2-y^2}{4x+8} = \frac{2(x+2)}{x+y} \times \frac{x^2-y^2}{4(x+2)} =$$

$$\frac{2(x+2)}{x+y} \times \frac{(x+y)(x-y)}{4(x+2)} = \frac{x-y}{2}$$

$$2) \frac{x^3+8y+15}{y^2-25} \cdot \frac{4y-20}{4x+8} = \frac{x^3+8y+15}{y^2-25} \times \frac{4(y-5)}{4(x+2)}$$

$$\frac{x^3+8y+15}{(y+5)(y-5)} \times \frac{y-5}{x+2} \times \frac{x^3+8y+15}{(y+5)(y-5)} \times \frac{y-5}{x+2} =$$

$$\frac{(x^3+8y+15)(y-5)}{(y+5)(y-5)(x+2)} = \frac{x^3+8y+15}{(y+5)(x+2)}$$

$$3) \frac{x^3+64}{x^2-16} \cdot \frac{6x-24}{x^3-4x^2+16x} = \frac{(x+4)(x^2-xx4+4^2)}{x^2-16} \times \frac{6x-24}{x^3-4x^2+16x} =$$

$$\frac{(x+4)(x^2-xx4+4^2)}{(x+4)(x-4)} \times \frac{6x-24}{x^3-4x^2+16x} = \frac{x^2-xx4+4^2}{x-4} \times \frac{6x-24}{x^3-4x^2+16x} =$$

$$\frac{x^2-4x+4^2}{x-4} \times \frac{6x-24}{x^3-4x^2+16x} = \frac{x^2-4x+16}{x-4} \times \frac{6(x-4)}{x(x^2-4x+16)} =$$

$$\frac{6}{x}$$

$$\frac{5x^2 + 13x - 6}{4 - 25x} \cdot \frac{10x + 4}{9 - x^2} = \frac{5x^2 + 13x - 6}{4 - 25x} \times \frac{2(5x + 2)}{9 - x^2}$$

$$\frac{(5x - 2)(x + 3)}{4 - 25x} \times \frac{2(5x + 2)}{9 - x^2} = \frac{(5x - 2)(x + 3)}{4 - 25x} \times \frac{2(5x + 2)}{(3 + x)(3 - x)}$$

$$\frac{5x - 2}{4 - 25x} \times \frac{2(5x + 2)}{3 - x} = \frac{(5x - 2) \times 2(5x + 2)}{(4 - 25x)(3 - x)}$$

$$\frac{2(5x - 2)(5x + 2)}{(4 - 25x)(3 - x)}$$