

$$\#1 \quad \frac{2}{7} \div \frac{18}{8x^2} = \frac{2}{7} \cdot \frac{8x^2}{18} = \frac{16x^2}{126} = \frac{\cancel{2} \cdot 8x^2}{\cancel{2} \cdot 63} = \frac{8x^2}{63}$$

$$\#2 \quad \frac{3}{28b} \div \frac{3}{b+1} = \frac{3}{28b} \cdot \frac{b+1}{3} = \frac{\cancel{3}(b+1)}{28b\cancel{3}} = \frac{b+1}{28b}$$

$$\#3 \quad \frac{1}{2a} \div \frac{8a}{2a^2+16a} = \frac{1}{2a} \cdot \frac{2a^2+16a}{8a} = \frac{2a(a+8)}{2a \cdot 8a} = \frac{a+8}{8a}$$

$$\#4 \quad \frac{8}{4n^2-16n} \div \frac{1}{n-4} = \frac{8}{4n^2-16n} \cdot \frac{n-4}{1} = \frac{8(n-4)}{4n(n-4)} = \frac{2}{n}$$

$$\#5 \quad \frac{16x-56}{8} \div \frac{8x-28}{4} = \frac{16x-56}{8} \cdot \frac{4}{8x-28} = \frac{32(2x-7)}{32(2x-7)} = 1$$

$$\begin{aligned} \#6 \quad \frac{10x^2-28x+16}{2x-4} \div \frac{25x^2-25x+4}{5x^2-41x+8} &= \frac{(10x^2-28x+16)(5x^2-41x+8)}{(2x-4)(25x^2-25x+4)} \\ &= \frac{\cancel{(5x-4)}\cancel{(2x-4)}\cancel{(5x-1)}(x-8)}{\cancel{(2x-4)}\cancel{(5x-1)}\cancel{(5x-4)}} = x-8 \end{aligned}$$