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$$A = (a^{-5} \times b^{-2})^{10} = a^{-5 \times 10} \times b^{-2 \times 10} = a^{-50} \times b^{-20}$$

$$\begin{aligned} B &= \left(\frac{a}{b^2}\right)^{-2} \times \left(\frac{1}{a^3}\right)^5 \\ &= \frac{a^{-2}}{b^{2 \times (-2)}} \times \frac{1^5}{a^{3 \times 5}} \\ &= \frac{a^{-2}}{b^{-4}} \times \frac{1}{a^{15}} \\ &= a^{-2} \times b^{-(-4)} \times a^{-15} \\ &= a^{-2+(-15)} \times b^4 \\ &= a^{-17} \times b^4 \end{aligned}$$