

Basic Mathematics - Quiz 9

Solution

Simplify as much as possible (justify by writing intermediate steps) :

We use the calculation rules for exponential, $\exp(x) \exp(y) = \exp(x + y)$, $\exp(x)^y = \exp(xy)$, $1/\exp(x) = \exp(-x)$:

$$\begin{aligned}\frac{\exp(2)^5 \exp(5)^3}{\exp(7)^2} &= \frac{\exp(2 \times 5) \exp(5 \times 3)}{\exp(7 \times 2)} \\ &= \frac{\exp(10) \exp(15)}{\exp(14)} = \exp(10 + 15) \exp(-14) \\ &= \exp(10 + 15 - 14) = \exp(11).\end{aligned}$$