



Exercise 6B

Q1

Answer :

$$\begin{aligned} & 3a^2 \times 8a^4 \\ &= (3 \times 8) \times (a^2 \times a^4) \\ &= 24 \times a^{(2+4)} \\ &= 24a^6 \end{aligned}$$

Q2

Answer :

$$\begin{aligned} & -6x^3 \times 5x^2 \\ &= (-6 \times 5) \times (x^3 \times x^2) \\ &= (-30) \times (x^{(3+2)}) \\ &= -30x^5 \end{aligned}$$

Q3

Answer :

$$\begin{aligned} & (-4ab) \times (-3a^2bc) \\ &= (-4 \times -3) \times (a \times a^2 \times b \times b \times c) \\ &= 12 \times (a^3b^2c) \\ &= 12a^3b^2c \end{aligned}$$

Q4

Answer :

$$\begin{aligned}
& (2a^2b^3) \times (-3a^3b) \\
&= \left(2 \times (-3)\right) \times \left(a^2 \times a^3 \times b^3 \times b\right) \\
&= (-6) \times \left(a^{(2+3)} \times b^{(3+1)}\right) \\
&= -6a^5b^4
\end{aligned}$$

Q5

Answer :

$$\begin{aligned}
&= \left(\frac{2}{3} \times \frac{3}{5}\right) \times \left(x^2 \times x \times y \times y^2\right) \\
&= \frac{2}{5} \times x^{(2+1)} \times y^{(1+2)} \\
&= \frac{2}{5} x^3 y^3
\end{aligned}$$

Q6

Answer :

$$\begin{aligned}
&= \left(\frac{-3}{4} \times \frac{-2}{3}\right) \times \left(a \times a^2 \times b^3 \times b^4\right) \\
&= \frac{1}{2} \times a^{(1+2)} \times b^{(3+4)} \\
&= \frac{1}{2} a^3 b^7
\end{aligned}$$

Q7

Answer :

$$\begin{aligned}
&= \left(\frac{-1}{27} \times \frac{-9}{2}\right) \times \left(a^2 \times a^3 \times b^2 \times b \times c^2\right) \\
&= \frac{1}{6} \times a^{(2+3)} \times b^{(2+1)} \times c^2 \\
&= \frac{1}{6} a^5 b^3 c^2
\end{aligned}$$

Q8

Answer :

$$\begin{aligned}&= \left(\frac{-13}{5} \times \frac{7}{3} \right) \times \left(a \times a^2 \times b^2 \times b \times c \times c^2 \right) \\&= \frac{-91}{15} a^{(1+2)} \times b^{(2+1)} \times c^{(1+2)} \\&= \frac{-91}{15} a^3 b^3 c^3\end{aligned}$$

Q9

Answer :

$$\begin{aligned}&= \left(-\frac{18}{5} \times \frac{-25}{6} \right) \times \left(x^2 \times x \times z \times z^2 \times y \right) \\&= 15 \times x^{(2+1)} \times y \times z^{(1+2)} \\&= 15x^3 yz^3\end{aligned}$$

Q10

Answer :

$$\begin{aligned}&= \left(\frac{-3}{14} \times \frac{7}{6} \right) \times \left(x \times x^3 \times y^4 \times y \right) \\&= \frac{-1}{4} x^{(1+3)} \times y^{(4+1)} \\&= \frac{-1}{4} x^4 y^5\end{aligned}$$

Q11

Answer :

$$\begin{aligned}
&= \left(\frac{-7}{5} \times \frac{3}{2} \times \frac{-6}{5} \right) \times \left(x^2 \times x \times x^3 \times y \times y^2 \times y^3 \right) \\
&= \frac{63}{25} \times x^{(2+1+3)} \times y^{(1+2+3)} \\
&= \frac{63}{25} x^6 y^6
\end{aligned}$$

Q12

Answer :

$$\begin{aligned}
&= \left(2 \times (-5) \times (-6) \right) \times \left(a^2 \times a \times b \times b^2 \times b \times c \times c^2 \right) \\
&= 60 \times a^{(2+1)} \times b^{(1+2+1)} \times c^{(1+2)} \\
&= 60a^3 b^4 c^3
\end{aligned}$$

Q13

Answer :

$$\begin{aligned}
&= \left(-4 \times (-6) \times (-3) \right) \times \left(x^2 \times x \times y^2 \times y \right) \\
&= -72 \times x^{(2+1)} \times y^{(2+1)} \\
&= -72x^3 y^3
\end{aligned}$$

Q14

Answer :

$$\begin{aligned}
&= \left(\frac{-3}{5} \times \frac{15}{7} \times \frac{7}{9} \right) \times \left(s^2 \times s \times s \times t \times t^2 \times u \times u^2 \right) \\
&= -1 \times s^{(2+1+1)} \times t^{(1+2)} \times u^{(1+2)} \\
&= -s^4 t^3 u^3
\end{aligned}$$

Q15

Answer :

$$\begin{aligned} &= \left(\frac{-2}{7} \times \frac{-14}{5} \times \frac{-3}{4} \right) \times \left(u^4 \times u \times u^2 \times v \times v^3 \times v^3 \right) \\ &= \frac{-3}{5} \times u^{(4+1+2)} \times v^{(1+3+3)} \\ &= \frac{-3}{5} u^7 v^7 \end{aligned}$$

Q16

Answer :

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

Q17

Answer :

$$\begin{aligned} &= \left(\frac{4}{3} \times \frac{1}{3} \times (-6) \right) \times \left(x^2 \times x \times x \times y \times y^2 \times y \times z \times z \times z^2 \right) \\ &= \frac{-8}{3} \times x^{(2+1+1)} \times y^{(1+2+1)} \times z^{(1+1+2)} \\ &= \frac{-8}{3} x^4 y^4 z^4 \end{aligned}$$

Q18

Answer :

$$\begin{aligned} &\frac{-2}{3} a^2 b \times \frac{6}{5} a^3 b^2 \\ &= \left(\frac{-2}{3} \times \frac{6}{5} \right) \times \left(a^2 \times a^3 \times b \times b^2 \right) \\ &= \frac{-4}{5} \times a^{(2+3)} \times b^{(1+2)} \end{aligned}$$

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