



Algebraic Expressions and Identities Ex 6.4 Q5

Answer :

To find the product, we will use distributive law as follows:

$$\begin{aligned} & \frac{6x}{5} (x^3 + y^3) \\ &= \frac{6x}{5} \times x^3 + \frac{6x}{5} \times y^3 \\ &= \frac{6}{5} \times (x \times x^3) + \frac{6}{5} \times (x \times y^3) \\ &= \frac{6}{5} \times (x^{1+3}) + \frac{6}{5} \times (x \times y^3) \\ &= \frac{6x^4}{5} + \frac{6xy^3}{5} \end{aligned}$$

Thus, the answer is $\frac{6x^4}{5} + \frac{6xy^3}{5}$.

Algebraic Expressions and Identities Ex 6.4 Q6

Answer :

To find the product, we will use the distributive law in the following way:

$$\begin{aligned} & xy(x^3 - y^3) \\ &= xy \times x^3 - xy \times y^3 \\ &= (x \times x^3) \times y - x \times (y \times y^3) \\ &= x^{1+3}y - xy^{1+3} \\ &= x^4y - xy^4 \end{aligned}$$

Thus, the answer is $x^4y - xy^4$.

Algebraic Expressions and Identities Ex 6.4 Q7

Answer :

To find the product, we will use distributive law as follows:

$$\begin{aligned} & 0.1y(0.1x^5 + 0.1y) \\ &= (0.1y)(0.1x^5) + (0.1y)(0.1y) \\ &= (0.1 \times 0.1)(y \times x^5) + (0.1 \times 0.1)(y \times y) \\ &= (0.1 \times 0.1)(x^5 \times y) + (0.1 \times 0.1)(y^{1+1}) \\ &= 0.01x^5y + 0.01y^2 \end{aligned}$$

Thus, the answer is $0.01x^5y + 0.01y^2$.

Algebraic Expressions and Identities Ex 6.4 Q8

Answer :

To find the product, we will use distributive law as follows:

$$\begin{aligned} & \left(-\frac{7}{4}ab^2c - \frac{6}{25}a^2c^2\right)(-50a^2b^2c^2) \\ &= \left\{\left(-\frac{7}{4}ab^2c\right)(-50a^2b^2c^2)\right\} - \left\{\left(\frac{6}{25}a^2c^2\right)(-50a^2b^2c^2)\right\} \\ &= \left\{\left\{-\frac{7}{4} \times (-50)\right\}(a \times a^2) \times (b^2 \times b^2) \times (c \times c^2)\right\} \\ &\quad - \left\{\left(\frac{6}{25}\right)(-50)(a^2 \times a^2) \times (b^2) \times (c^2 \times c^2)\right\} \\ &= \left\{-\frac{7}{4} \times (-50)\right\}(a^{1+2}b^{2+2}c^{1+2}) - \left\{\left(\frac{6}{25}\right)(-50)(a^{2+2}b^2c^{2+2})\right\} \\ &= \frac{175}{2}a^3b^4c^3 - (-12a^4b^2c^4) \\ &= \frac{175}{2}a^3b^4c^3 + 12a^4b^2c^4 \end{aligned}$$

Thus, the answer is $\frac{175}{2}a^3b^4c^3 + 12a^4b^2c^4$.

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