Q1

Answer:

(i) 24x²y³ by 3xy

$$\frac{24x^3y^3}{3xy}$$

$$\Rightarrow \left(\frac{24}{3}\right)\left(x^{2-1}\right)\left(y^{3-1}\right)$$

$$\Rightarrow 8xy^2.$$

Therefore, the quotient is *8xy²*.

(ii) 36xyz² by −9xz

$$\frac{36xyz^2}{-9xz}$$

$$\Rightarrow \left(\frac{36}{-9}\right)\left(x^{1-1}\right)\left(y^{1-0}\right)\left(z^{2-1}\right)$$

$$\Rightarrow -4yz$$

Therefore, the quotient is *−4yz*.

(iii)

$-72x^2y^2z$ by $-12xyz$

$$\frac{-72x^2y^2z}{-12xyz}$$

$$\Rightarrow \left(\frac{-72}{-12}\right)\left(x^{2-1}\right)\left(y^{2-1}\right)\left(z^{1-1}\right)$$

$$\Rightarrow 6xy$$

Therefore, the quotient is 6*xy*.

(iv) –56*mnp*² by 7*mnp*

$$\frac{-56mnp^2}{7mnp}$$

$$\Rightarrow \left(\frac{-56}{7}\right)\left(m^{1-1}\right)\left(n^{1-1}\right)\left(p^{2-1}\right)$$

$$\Rightarrow -8p$$

Therefore, the quotient is –8*p*.

Q2

Answer :

(i) 5*m*³ – 30*m*² + 45*m* by 5*m*

$$\left(5m^3 - 30m^2 + 45m\right) \div 5m$$

$$\Rightarrow \frac{5m^3}{5m} - \frac{30m^2}{5m} + \frac{45m}{5m}$$

$$\Rightarrow m^2 - 6m + 9$$

Therefore, the quotient is *m*² – 6*m* + 9.

(ii) 8*x*²*y*² – 6*xy*² + 10*x*²*y*³ by 2*xy*

$$\left(8x^2y^2 - 6xy^2 + 10x^2y^3\right) \div 2xy$$

$$\Rightarrow \frac{8x^2y^2}{2xy} - \frac{6xy^2}{2xy} + \frac{10x^2y^3}{2xy}$$

$$\Rightarrow 4xy - 3y + 5xy^2$$

Therefore, the quotient is $4xy - 3y + 5xy^2$.

(iii) $9x^2y - 6xy + 12xy^2$ by $- 3xy$

$$\left(9x^2y - 6xy + 12xy^2\right) \div -3xy$$
$$\Rightarrow \frac{9x^2y}{-3xy} - \frac{6xy}{-3xy} + \frac{12xy^2}{-3xy}$$
$$\Rightarrow -3x + 2 - 4y$$

Therefore, the quotient is $-3x + 2 - 4y$.

(iv) $12x^4 + 8x^3 - 6x^2$ by $- 2x^2$

$$\left(12x^4 + 8x^3 - 6x^2\right) \div -2x^2 \quad 2-4x+3^2$$
$$\Rightarrow \frac{12x^4}{-2x^2} + \frac{8x^3}{-2x^2} - \frac{6x^2}{-2x^2}$$
$$\Rightarrow -6x$$

Therefore the quotient is $-6x^2 - 4x + 3$.

Q3

Answer:

$$(x^2 - 4x + 4) \div (x - 2)$$

$$
\begin{array}{r}
x - 2 \overline{\smash{)}\, x^2 - 4x + 4\,} \left(x - 2\right.\\
\underline{x^2 - 2x}\\
\underline{-\ +}\\
-2x + 4\\
-2x + 4\\
\underline{+\quad -}\\
\times
\end{array}
$$

Therefore, the quotient is $(x - 2)$ and the remainder is 0.

Q4
Answer:

$$x + 2 \overline{) x^2 - 4 \qquad} (x - 2$$
$$\underline{x^2 \quad + 2x}$$
$$\quad - 2x - 4$$
$$\quad \underline{- 2x - 4}$$
$$\qquad \times$$

Therefore, the quotient is $x-2$ and the remainder is 0.

Q5
Answer:

$(x^2 + 12x + 35)$ by $(x + 7)$

$$x + 7 \overline{) x^2 + 12x + 35} (x + 5$$
$$\underline{x^2 + 7x}$$
$$\qquad 5x + 35$$
$$\qquad \underline{5x + 35}$$
$$\qquad\quad \times$$

Therefore, the quotient is $(x + 5)$ and the remainder is 0.

Q6

Answer :

$$3x + 2 \overline{\smash{\big)}\ 15x^2 +\ \ x - 6}\ \big(5x - 3$$
$$15x^2 + 10x$$
$$\underline{-\qquad -}$$
$$\quad\ -9x - 6$$
$$\quad\ -9x - 6$$
$$\underline{\ +\qquad +}$$
$$\qquad\quad \times$$

Therefore, the quotient is $(5x - 3)$ and the remainder is 0.

Q7

Answer :

$$7x - 9 \overline{\smash{\big)}\ 14x^2 - 53x + 45}\ \big(2x - 5$$
$$14x^2 - 18x$$
$$\underline{-\qquad +}$$
$$\quad\ -35x + 45$$
$$\quad\ -35x + 45$$
$$\underline{\ +\qquad -}$$
$$\qquad\quad \times$$

Therefore, the quotient is $(2x\ -\ 5)$ and the remainder is 0.

Q8

Answer :

$$2x - 5 \overline{\smash{\big)}\ 6x^2 - 31x + 47}\ \big(3x - 8$$
$$6x^2 - 15x$$
$$\underline{-\qquad +}$$
$$\quad\ -16x + 47$$
$$\quad\ -16x + 40$$
$$\underline{\ +\qquad -}$$
$$\qquad\quad 7$$

********** END *********