Factorizations Ex 7.4 Q11

Answer :

$$
\begin{aligned}
& x^3-y^2+x-x^2y^2 \\
& =\left(x^3+x\right)-\left(x^2y^2+y^2\right) \qquad [Regrouping\ the\ expressions] \\
& =x\left(x^2+1\right)-y^2\left(x^2+1\right) \\
& =\left(x-y^2\right)\left(x^2+1\right) \qquad [Taking\ \left(x^2+1\right)\ as\ the\ common\ factor]
\end{aligned}
$$

Factorizations Ex 7.4 Q12

Answer :

$$
\begin{aligned}
6xy+6-9y-4x &= (6xy-4x)+(6-9y) \quad [Regrouping\ the\ expressions] \\
&= 2x(3y-2)+3(2-3y) \\
&= 2x(3y-2)-3(3y-2) \quad [\because (2-3y)=-(3y-2)] \\
&= (2x-3)(3y-2) \qquad [Taking\ (3y-2)\ as\ the\ common\ factor]
\end{aligned}
$$

Factorizations Ex 7.4 Q13

Answer :

$$
\begin{aligned}
& x^2-2ax-2ab+bx \\
& =\left(x^2-2ax\right)+\left(bx-2ab\right) \quad [Regrouping\ the\ expressions] \\
& =x\left(x-2a\right)+b\left(x-2a\right) \\
& =\left(x+b\right)\left(x-2a\right) \qquad [Taking\ \left(x-2a\right)\ as\ the\ common\ factor] \\
& =\left(x-2a\right)\left(x+b\right)
\end{aligned}
$$

Factorizations Ex 7.4 Q14

Answer :

$$
\begin{aligned}
& x^3-2x^2y+3xy^2-6y^3 \\
& =\left(x^3-2x^2y\right)+\left(3xy^2-6y^3\right) \qquad \left[Grouping\ the\ expressions\right] \\
& =x^2\left(x-2y\right)+3y^2\left(x-2y\right) \\
& =\left(x^2+3y^2\right)\left(x-2y\right) \qquad \left[Taking\ \left(x-2y\right)\ as\ the\ common\ factor\right]
\end{aligned}
$$

Factorizations Ex 7.4 Q15

Answer :

$$
\begin{aligned}
abx^2+(ay-b)x-y &= abx^2+axy-bx-y \\
&= (abx^2-bx)+(axy-y) \quad [Regrouping\ the\ expressions] \\
&= bx(ax-1)+y(ax-1) \\
&= (bx+y)(ax-1)
\end{aligned}
$$

$[Taking\ (ax-1)\ as\ the\ common\ factor]$

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