

Factorizations Ex 7.4 Q21

Answer:

$$egin{aligned} aig(a+b-cig)-bc&=a^2+ab-ac-bc\ &=ig(a^2-acig)+ig(ab-bcig) & \left[Regrouping\ the\ expressions
ight]\ &=aig(a-cig)+big(a-cig)\ &=ig(a+big)ig(a-cig) & \left[Taking\ ig(a-cig)\ as\ the\ common\ factor
ight] \end{aligned}$$

Factorizations Ex 7.4 Q22

Answer:

$$\begin{split} x^2 - 11xy - x + 11y &= \left(x^2 - x\right) + \left(11y - 11xy\right) \quad \begin{bmatrix} Regrouping \ the \ expressions \end{bmatrix} \\ &= x\left(x - 1\right) + 11y\left(1 - x\right) \\ &= x\left(x - 1\right) - 11y\left(x - 1\right) \quad \quad \left[\because \left(1 - x\right) = -\left(x - 1\right)\right] \\ &= \left(x - 11y\right)\left(x - 1\right) \quad \quad \begin{bmatrix} Taking \ out \ the \ common \ factor \ \left(x - 1\right) \end{bmatrix} \end{split}$$

Factorizations Ex 7.4 Q23

Answer:

$$egin{aligned} ab-a-b+1 &= (ab-b)+(1-a) & [Regrouping \ the \ expressions] \ &= b(a-1)+(1-a) \ &= b(a-1)-(a-1) & [\because (1-a)=-(a-1)] \ &= (a-1)(b-1) & [Taking \ out \ the \ common \ factor \ (a-1)] \end{aligned}$$

Factorizations Ex 7.4 Q24

Answer:

$$egin{aligned} x^2+y-xy-x&=ig(x^2-xyig)+ig(y-xig) & \left[Regrouping\ the\ expressions
ight] \ &=xig(x-yig)+ig(y-xig) \ &=xig(x-yig)-ig(x-yig) & \left[\because ig(y-xig)=-ig(x-yig)
ight] \ &=ig(x-1ig)ig(x-yig) & as\ the\ common\ expression \end{bmatrix}$$

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