

Factorizations Ex 7.4 Q21

Answer:

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

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:

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

Factorizations Ex 7.4 Q24

Answer:

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

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