

Ex 1.8

$$\begin{aligned} 10) \quad \underbrace{(2a+3b)}_{\text{red}} \underbrace{(2x+y)}_{\text{yellow}} + \underbrace{(3a+5b)}_{\text{red}} \underbrace{(2x+y)}_{\text{yellow}} &= (2x+y) \left[\underbrace{(2a+3b)}_{\text{red}} + \underbrace{(3a+5b)}_{\text{red}} \right] \\ &= (2x+y)(5a+8b) \end{aligned}$$

$$\begin{aligned} 13) \quad (x-3)(x+1) + 2(x-3)^2 - (x-3) &= (x-3) \left[(x+1) + 2(x-3) - 1 \right] \\ &= (x-3)(x+1+2x-6-1) \\ &= (x-3)(3x-6) \\ &= 3(x-3)(x-2) \end{aligned}$$

$$14) \quad (u+v)^3 - (u+v)^2 = (u+v)^2(u+v-1)$$

$$\begin{aligned} 15) \quad 2a(a-b) - (a-b)^2 &= (a-b) \left[2a - (a-b) \right] \\ &= (a-b)(2a-a+b) = (a-b)(a+b) \end{aligned}$$