

Chapter 3 More Review QuestionsName (KEY)Factor:

1. $3(x+y)^2 - 5(x+y) - 2$

let $a = x+y$

$3a^2 - 5a - 2$

$= 3a^2 - 6a + a - 2$

$= 3a(a-2) + (a-2)$

$= (3a+1)(a-2)$

$= [3(x+y)+1][(x+y)-2]$

$= (3x+3y+1)(x+y-2)$

$$\begin{array}{r} 3(-2) = -6 \\ \\ -6 +1 \end{array}$$

2. $4(x-y) + 6x(y-x)$

$= 4(x-y) - 6x(x-y)$

$= (4-6x)(x-y)$

$= 2(2-3x)(x-y)$

Note: $y-x$

$= -(x-y)$

3. $75(x+y)^2 - 108$

$= 3[25(x+y)^2 - 36]$

$= 3[(5(x+y))^2 - (6)^2]$

$= 3(5(x+y)+6)(5(x+y)-6)$

$= 3(5x+5y+6)(5x+5y-6)$

4. $10(x-y)^2 + 21(y-x) - 10$

$= 10(x-y)^2 - 21(x-y) - 10$

let $a = x-y$

$10a^2 - 21a - 10$

$= 10a^2 - 25a + 4a - 10$

$= 5a(2a-5) + 2(2a-5)$

$= (5a+2)(2a-5)$

$= [5(x-y)+2][2(x-y)-5]$

$= (5x-5y+2)(2x-2y-5)$

$10(-10) = -100$

$$\begin{array}{r} -25 +4 \end{array}$$