

Introduction to Factoring



Section A Complete the multiplication grid, expanding brackets where necessary.

x	$2 + x$	$2x + 7$	$x - 5$
4	$4(2 + x)$	$4(2x + 7)$	
	$8 + 4x$		
5	$5(2 + x)$		$5(x - 5)$
			$5x - 25$
7	$7(2 + x)$		

Section B Complete the multiplication grid, expanding brackets where necessary.

x		$4x - 2$	
3	$3(2x + 1)$	$3(4x - 2)$	
	$6x + 3$		
6			$6(3x + 8)$
		$9(4x - 2)$	

Section C Complete the multiplication grid.
Write the factorised term above the expanded term where necessary.

x		$x + 3$	
2	$2(5x + 1)$		
		$2x + 6$	$4x + 10$
		$3x + 9$	
		$5x + 15$	

Section D Complete the multiplication grid.
Write the factorised term above the expanded term where necessary.

x	$2 - x$		
5			
	$10 - 5x$	$20 - 35x$	$15x + 40$
		$16 - 28x$	
			$9x + 24$

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Section E

Complete the multiplication grid.

Write the factorised term above the expanded term where necessary.

x			
x	$x^2 - 7x$	$x^2 + 2x$	
	$2x^2 - 14x$		
	$5x^2 - 35x$		$20x^2 + 10x$

Section F

Write down the HCF between the two terms.

Terms		HCF
2x	18	2
9x	27	
12x	18	
20x	55	
16	36x	
14	26x	

Terms		HCF
8x	-16	
-7x	21	
20x	-5	
$6x^2$	9x	3x
15x	$18x^2$	
16x	$-24x^2$	

Section G

Factorise the following expressions.

1) $4x + 20$
= 4 ()

2) $5x + 15$
= ($x + 3$)

3) $6x - 12$
= 6 ()

4) $3x + 6$
= ($x + 2$)

5) $35x + 15$

6) $24x + 16$

7) $18x - 12$

8) $33x + 121$

9) $6x - 36$

10) $7x - 49$

11) $9x - 72$

12) $4x - 48$

13) $35 + 7x$

14) $32 - 8x$

15) $14 - 21x$

16) $27 - 18x$

17) $x^2 + 2x$

18) $2x^2 - 14x$

19) $6x^2 - 9x$

20) $15x^2 + 30x$

21) $64x - 8x^2$

22) $63x + 36x^2$

23) $132x^2 + 44x$

24) $125x - 50x^2$