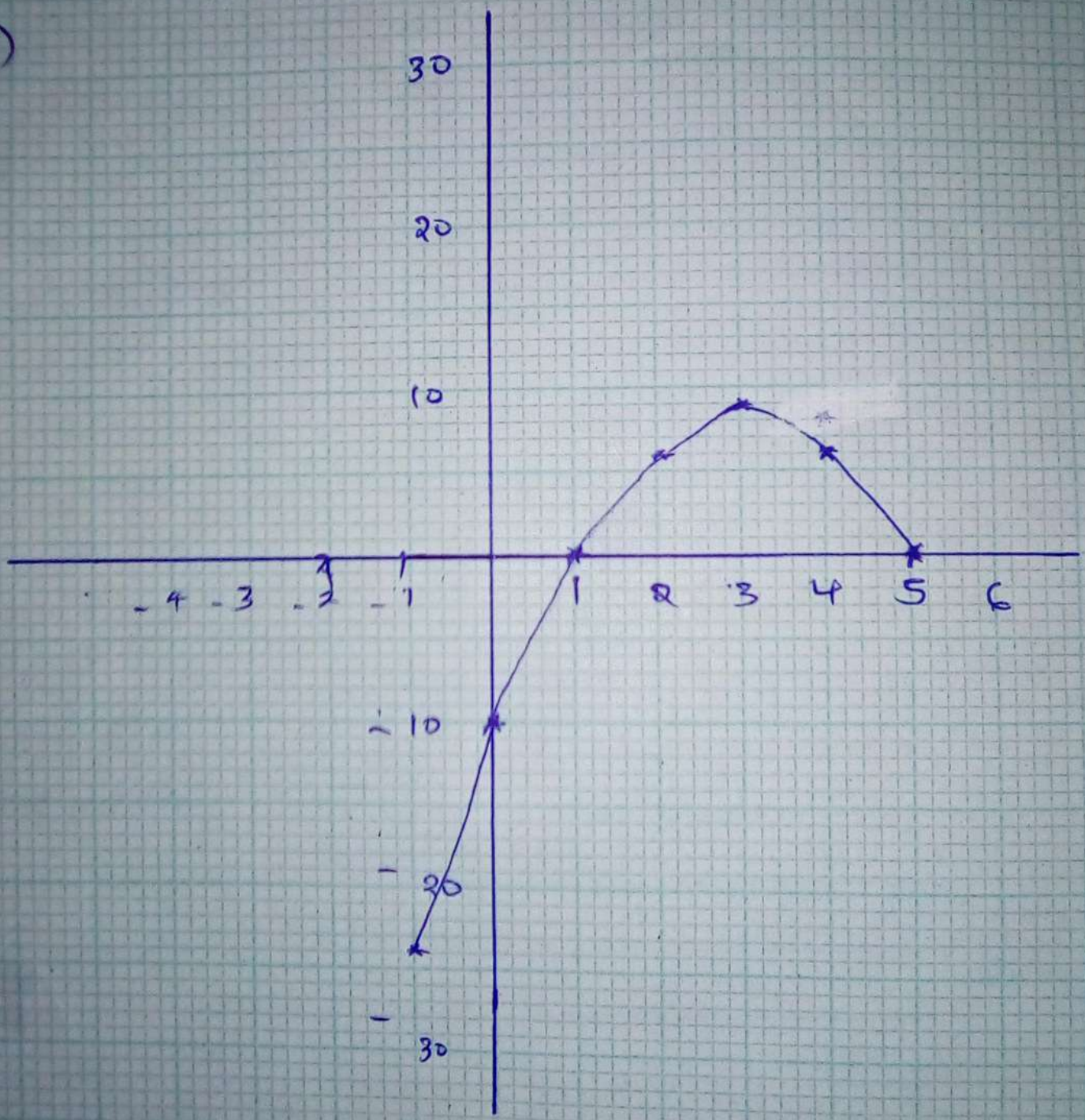
(3c)



3b

$y = 0 \quad x = 5 \text{ or } -1$

$X = 0$

$y = -2(0)^2 + 12(0) - 10$

$y = 10$

3c

x	5	4	3	2	1	0	-1
$-2x^2$	-50	-32	-18	-8	-2	0	-2
$12x$	60	48	36	24	12	0	-12
-10	-10	-10	-10	-10	-10	-10	-10
y	0	86	84	46	0	-10	-24

e $\frac{2x^2}{2} + \frac{14x}{2} - \frac{120}{2}$

$x^2 + 7x - 60$

$x^2 + 12x - 5x - 60$

$x(x+12) - 5(x+12)$

$(x-5)(x+12)$

f $5x(x-2) - 3(x-2)$

$(5x-3)(x-2)$

2.

(a) $3x^2 + 11x + 6$

$18x^2$

$11x$

$3x^2 + 9x + 2x + 6$

$3x(x+3) + 2(x+3)$

$(3x+2)(x+3)$

Factorisation method

(b) $4x^2 - 225$

$(2x-15)(2x+15)$

Completing the square method

g c

$\frac{18x^2}{\div 2} - \frac{48x}{\div 2} + \frac{32}{\div 2}$

~~$3x^2 - 8x$~~

$9x^2 - 24x + 16$

$144x^2$

$-24x$

$9x^2 - 12x - 12x + 16$

$3x(3x-4) - 4(3x-4)$

$(3x-4)(3x-4)$

$(3x-4)^2$

Factorising method

3

a $y = -2x^2 + 12x - 10$

$0 = \frac{-2x^2}{2} + \frac{12x}{2} - \frac{10}{2}$

$-x^2 + 6x - 5 = 0$

$-x^2 + 5x$

$6x$

$-x^2 + x + 5x - 5 = 0$

$x(-x+1) - 5(-x+1) = 0$

$(x-5)(1-x) = 0$

$x = 5$ or

$x = -1$

1

a $x^2+2x-15$

Sum 2x

Product $-15x^2$

$x^2-3x+5x-15$

$x(x-3)+5(x-3)$

$(x-3)(x+5)$

b x^2-2x-3

$-2x$

$-3x^2$

$x^2+x-3x-3$

$x(x+1)-3(x+1)$

$(x-3)(x+1)$

c (x^2-1)

difference of two squares

$(x-1)(x+1)$

d $\frac{3}{3}a^2-\frac{3a}{3}-\frac{36}{3}$

a^2-a-12

$-a$

$-12a^2$

$a^2+3a-4a-12$

$a(a+3)-4(a+3)$

$(a-4)(a+3)$