

(32)

x	1	2	3	4	5	6
f(x)	-4	0	10	26	48	76

1st

4	10	16	22	28
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2nd

6	6	6	6
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$$f(x) = ax^2 + bx + c$$

$$f(1) = \boxed{a + b + c = -4}$$

$$f(2) = \boxed{4a + 2b + c = 0}$$

$$f(3) = \boxed{9a + 3b + c = 10}$$

$$a = 3$$

$$b = -5$$

$$c = -2$$

$$\boxed{f(x) = 3x^2 - 5x - 2}$$

33

x	1	2	3	4	5	6
f(x)	17	28	33	32	25	12
1 st	11	5	-1	-7	-13	
2 nd	-6	-6	-6	-6		

$$f(x) = ax^2 + bx + c$$

$$f(1) = a + b + c = 17$$

$$f(2) = 4a + 2b + c = 28$$

$$f(3) = 9 + 3b + c = 33$$

$$a = -3 \quad b = 20 \quad c = 0$$

$$f(x) = -3x^2 + 20x$$

34

x	1	2	3	4	5	6
f(x)	-4	-6	-2	14	48	106
1 st	-2	4	16	34	58	
2 nd		6	12	18	24	
3 rd			6	6	6	

$$f(x) = ax^3 + bx^2 + cx + d$$

$$f(1) = a + b + c + d = -4$$

$$f(2) = 8a + 4b + 2c + d = -6$$

$$f(3) = 27a + 9b + 3c + d = -2$$

$$f(4) = 64a + 16b + 4c + d = 14$$

$$a = 1 \quad b = -3 \quad c = 0 \quad d = -2$$

$$f(x) = x^3 - 3x^2 - 2$$

35

x	1	2	3	4	5	6
f(x)	-2	-6	-6	4	30	78
1 st		-4	0	10	26	48
2 nd			4	10	16	22
3 rd				6	6	6

$$f(x) = ax^3 + bx^2 + cx + d$$

$$f(1) = a + b + c + d = -2$$

$$f(2) = 8a + 4b + 2c + d = -6$$

$$f(3) = 27a + 9b + 3c + d = -6$$

$$f(4) = 64a + 16b + 4c + d = 4$$

$$a = 1 \quad b = -4 \quad c = 1 \quad d = 0$$

$$f(x) = x^3 - 4x^2 + x$$