Recognizing Relationships From Tables of Data

Determine what type of relationship is represented in each table below, and fill in the next two values. Write the equation if you can.

Exponential

x	y	
0	0.2	↘ ×4
1	0.8	↘ ×4
2	3.2	↘ ×4
3	12.8	↘ ×4
4	51.2	↘ ×4
5	204.8	↘ ×4
6	819.2	↘ ×4
7	3276.8	

$y = 0.2(4)^x$

Quadratic

x	y		
0	9	↘ +2	
1	11	↘ +4	↘ +2
2	15	↘ +6	↘ +2
3	21	↘ +8	↘ +2
4	29	↘ +10	↘ +2
5	39	↘ +12	↘ +2
6	51	↘ +14	↘ +2
7	65		

$y = x^2 + x + 9$

Quadratic

x	y		
0	-7	↘ +1	↘ +2
1	-6	↘ +3	↘ +2
2	-3	↘ +5	↘ +2
3	2	↘ +7	↘ +2
4	9	↘ +9	↘ +2
5	18	↘ +11	↘ +2
6	29	↘ +13	↘ +2
7	42		

$y = x^2 + x - 7$

Linear

x	y	
0	1	↘ +4
1	5	↘ +4
2	9	↘ +4
3	13	↘ +4
4	17	↘ +4
5	21	↘ +4
6	25	↘ +4
7	29	

$y = 4x + 1$

Quadratic

x	y		
0	35	↘ -10	↘ +2
1	25	↘ -8	↘ +2
2	17	↘ -6	↘ +2
3	11	↘ -4	↘ +2
4	7	↘ -2	↘ +2
5	5	↘ 0	↘ +2
6	5	↘ +2	↘ +2
7	7		

$y = x^2 - 11x + 35$

Quadratic

x	y		
0	30	↘ -5	↘ +2
1	25	↘ -3	↘ +2
2	22	↘ -1	↘ +2
3	21	↘ +1	↘ +2
4	22	↘ +3	↘ +2
5	25	↘ +5	↘ +2
6	30	↘ +7	↘ +2
7	37		

$y = x^2 - 6x + 30$

Exponential

x	y	
0	3	↘ ×3
1	9	↘ ×3
2	27	↘ ×3
3	81	↘ ×3
4	243	↘ ×3
5	729	↘ ×3
6	2187	↘ ×3
7	6561	

$y = 3(3)^x$

Quadratic

x	y		
0	4	↘ -1	↘ +2
1	3	↘ +1	↘ +2
2	4	↘ +3	↘ +2
3	7	↘ +5	↘ +2
4	12	↘ +7	↘ +2
5	19	↘ +9	↘ +2
6	28	↘ +11	↘ +2
7	39		

$y = x^2 - 2x + 4$

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Determine what type of relationship is represented in each table below, and fill in the next two values. Write the equation if you can.

Linear

x	y	
0	5	→+2
1	7	→+2
2	9	→+2
3	11	→+2
4	13	→+2
5	15	→+2
6	17	→+2
7	19	→+2

$y = 2x + 5$

Exponential

x	y	
0	1	→×3
1	3	→×3
2	9	→×3
3	27	→×3
4	81	→×3
5	243	→×3
6	729	→×3
7	2187	

$y = 1(3)^x$

Quadratic

x	y		
0	21	→+1	→+2
1	22	→+3	
2	25	→+5	
3	30	→+7	
4	37	→+9	
5	46	→+11	
6	57	→+13	
7	70		

$y = x^2 + 21$

Quadratic

x	y		
0	-10	→-2	→+2
1	-12	→+0	
2	-12	→+2	
3	-10	→+4	
4	-6	→+6	
5	0	→+8	
6	8	→+10	
7	18		

$y = x^2 - 3x - 10$

Quadratic

x	y		
0	8	→+24	→+8
1	32	→+32	
2	64	→+40	
3	104	→+48	
4	152	→+56	
5	208	→+64	
6	272	→+72	
7	344		

$y = 4x^2 + 20x + 8$

Linear

x	y	
0	22	→-5
1	17	→-5
2	12	→-5
3	7	→-5
4	2	→-5
5	-3	→-5
6	-8	→-5
7	-13	

$y = -5x + 22$

Quadratic

x	y		
0	4	→-1	→+2
1	3	→+1	
2	4	→+3	
3	7	→+5	
4	12	→+7	
5	19	→+9	
6	28	→+11	
7	39		

$y = x^2 - 2x + 4$

Exponential

x	y	
0	3.2	→×4
1	12.8	→×4
2	51.2	→×4
3	204.8	→×4
4	819.2	→×4
5	3276.8	→×4
6	13107.2	→×4
7	52428.8	

$y = 3.2(4)^x$

Recognizing Relationships From Tables of Data

Determine what type of relationship is represented in each table below, and fill in the next two values. Write the equation if you can.

Quadratic

x	y	
0	7	→+14 ↘+4
1	21	→+18 ↘+4
2	39	→+22 ↘+4
3	61	→+26 ↘+4
4	87	→+30 ↘+4
5	117	→+34 ↘+4
6	151	→+38 ↘+4
7	189	

$y = 2x^2 + 12x + 7$

Quadratic

x	y	
0	21	→+8 ↘+2
1	29	→+10 ↘+2
2	39	→+12 ↘+2
3	51	→+14 ↘+2
4	65	→+16 ↘+2
5	81	→+16 ↘+2
6	99	→+20 ↘+2
7	119	

$y = x^2 + 7x + 21$

Quadratic

x	y	
0	-16	→+8 ↘+8
1	-8	→+16 ↘+8
2	8	→+24 ↘+8
3	32	→+32 ↘+8
4	64	→+40 ↘+8
5	104	→+48 ↘+8
6	152	→+56 ↘+8
7	208	

$y = 4x^2 + 4x - 16$

Quadratic

x	y	
0	-10	→+5 ↘+8
1	-5	→+13 ↘+8
2	8	→+21 ↘+8
3	29	→+29 ↘+8
4	58	→+37 ↘+8
5	95	→+45 ↘+8
6	140	→+53 ↘+8
7	193	

$y = 4x^2 + x - 10$

Linear

x	y	
0	9	→+5
1	14	→+5
2	19	→+5
3	24	→+5
4	29	→+5
5	34	→+5
6	39	→+5
7	44	

$y = 5x + 9$

Linear

x	y	
0	-13	→-5
1	-18	→-5
2	-23	→-5
3	-28	→-5
4	-33	→-5
5	-38	→-5
6	-43	→-5
7	-48	

$y = -5x - 13$

Quadratic

x	y	
0	28	→-9 ↘+2
1	19	→-7 ↘+2
2	12	→-5 ↘+2
3	7	→-3 ↘+2
4	4	→-1 ↘+2
5	3	→+1 ↘+2
6	4	→+3 ↘+2
7	7	

$y = x^2 - 10x + 28$

Exponential

x	y	
0	0.2	→×6
1	1.2	→×6
2	7.2	→×6
3	43.2	→×6
4	259.2	→×6
5	1555.2	→×6
6	9331.2	→×6
7	55987.2	

$y = 0.2(6)^x$

Recognizing Relationships From Tables of Data

Determine what type of relationship is represented in each table below, and fill in the next two values. Write the equation if you can.

Quadratic

x	y	
0	37	→-7
1	30	→-5
2	25	→-3
3	22	→-1
4	21	→+1
5	22	→+3
6	25	→+5
7	30	

$y = x^2 - 8x + 37$

Linear

x	y	
0	-3	→-5
1	-8	→-5
2	-13	→-5
3	-18	→-5
4	-23	→-5
5	-28	→-5
6	-33	→-5
7	-38	

$y = -5x - 3$

Quadratic

x	y	
0	30	→-12
1	18	→-10
2	8	→-8
3	0	→-6
4	-6	→-4
5	-10	→-2
6	-12	→0
7	-12	

$y = x^2 - 13x + 30$

Quadratic

x	y	
0	39	→-11
1	28	→-9
2	19	→-7
3	12	→-5
4	7	→-3
5	4	→-1
6	3	→+1
7	4	

$y = x^2 - 12x + 39$

Exponential

x	y	
0	1.2	→×6
1	7.2	→×6
2	43.2	→×6
3	259.2	→×6
4	1555.2	→×6
5	9331.2	→×6
6	55987.2	→×6
7	335923.2	

$y = 1.2(6)^x$

Quadratic

x	y	
0	5	→+2
1	7	→+4
2	11	→+6
3	17	→+8
4	25	→+10
5	35	→+12
6	47	→+14
7	61	

$y = x^2 + x + 5$

Linear

x	y	
0	-3	→+2
1	-1	→+2
2	1	→+2
3	3	→+2
4	5	→+2
5	7	→+2
6	9	→+2
7	11	

$y = 2x - 3$

Quadratic

x	y	
0	-9	→+6
1	-3	→+10
2	7	→+14
3	21	→+18
4	39	→+22
5	61	→+26
6	87	→+30
7	117	

$y = 2x^2 + 4x - 9$