

Spring 2

Learning Focus: Know square numbers up to 144 (12^2) and their square roots.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

Representations

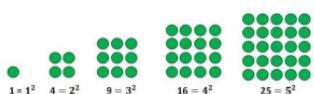
Concrete:

x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																																																						
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3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120	123	126	129	132	135	138	141	144																																										
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120	124	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192	196	200	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260	264	268	272	276	280	284	288	292	296	300															
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300																														
6	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300																																								
7	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175	182	189	196	203	210	217	224	231	238	245	252	259	266	273	280	287	294	300																																															
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9	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225	234	243	252	261	270	279	288	297	300																																																								
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11	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	187	198	209	220	231	242	253	264	275	286	297	308	319	330	341	352	363	374	385	396	407	418	429	440	451	462	473	484	495	506	517	528	539	550	561	572	583	594	605	616	627	638	649	660	671	682	693	704	715	726	737	748	759	770	781	792	803	814	825	836	847	858	869	880	891	902	913	924	935	946	957	968	979	980
12	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300																																																																	

Abstract:

1 ²	1 x 1	1
2 ²	2 x 2	4
3 ²	3 x 3	9
4 ²	4 x 4	16
5 ²	5 x 5	25
6 ²	6 x 6	36
7 ²	7 x 7	49
8 ²	8 x 8	64
9 ²	9 x 9	81
10 ²	10 x 10	100
11 ²	11 x 11	121
12 ²	12 x 12	144

Concrete and Pictorial:



Notation

A symbol. The notation ² means squared e.g. 5^2 is $5 \times 5 = 25$

Square number

The result when a number has been multiplied by itself.

Square root

A square root of a number is a value that, when multiplied by itself, gives the number. e.g. the square root of 9 is 3

Getting Started

The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Suggested Activities

- Around the clock** - think of a clock face. What are each of the numbers a square root of? E.g. 12: 12 is the square root of 144. What are each of the numbers squared?
- Dice roll** - whatever the number lands on, square it
- Cards** - turn a card over, square it and call out the answer. Can you say the answer quicker than your partner?

Useful Websites

- [White Rose Maths](#)
- [Game: Whack-a-Square](#)
- [Maths Zone: 100 Square](#)
- [TopMarks: Hit the Button](#)