

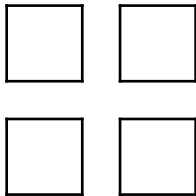
Week 14

Tuesday 23rd June 2020

Year 5 Square Numbers

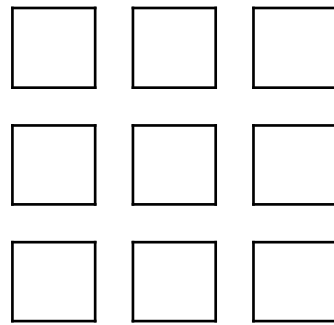
Square Numbers

1a. Which squared number does this diagram represent?



Square Numbers

1b. Which squared number does this diagram represent?



2a. Calculate:



2b. Calculate:



3a. Match the squared numbers. The first one has been done for you.

1^2	3^2	5^2	7^2	9^2
3×3	1×1	7×7	9×9	5×5
9	81	1	49	25

Arrows indicate: 1^2 matches 1×1 and 1; 1×1 matches 1.



3b. Match the squared numbers. The first one has been done for you

2^2	6^2	7^2	4^2	8^2
7×7	2×2	8×8	4×4	6×6
4	16	36	49	64

Arrows indicate: 2^2 matches 2×2 and 4; 2×2 matches 4.



4a. Complete the table below.

__ ²	9
__ ²	36
__ ²	64



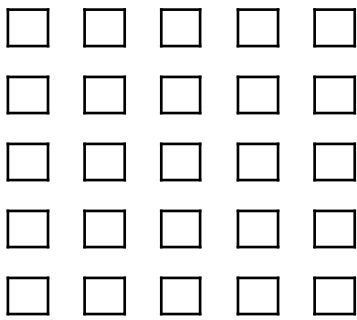
4b. Complete the table below.

__ ²	25
__ ²	49
__ ²	81



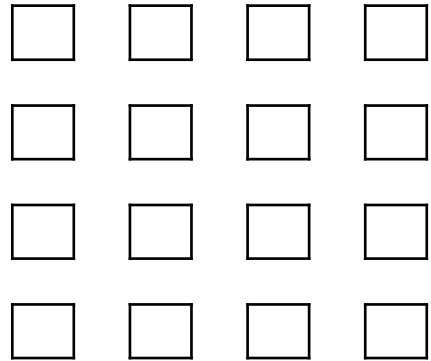
Square Numbers

5a. Which squared number does this diagram represent?



Square Numbers

5b. Which squared number does this diagram represent?



6a. Calculate:

3 squared

5^2

11 squared

7^2

8 squared

6^2



6b. Calculate:

2 squared

1^2

10 squared

8^2

12 squared

7^2



7a. Circle the square numbers.

11

16

21

22

36

25

9

10

23

46

62

64

66

68

60



7b. Circle the square numbers.

81

91

101

111

121

104

144

56

49

35

64

74

84

94

100



8a. Complete the table below.

___ ²	2 x 2	4
	4 x 4	
11 ²		
	8 x 8	



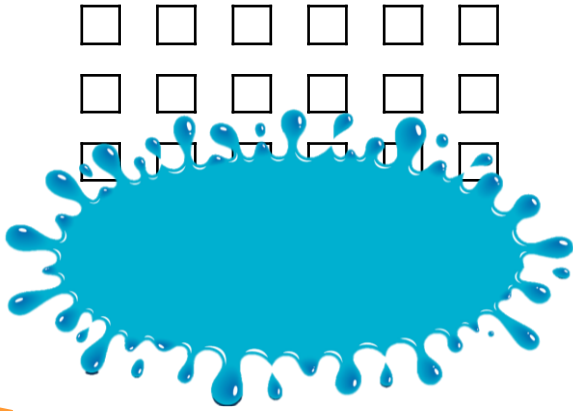
8b. Complete the table below.

___ ²	3 x 3	9
	5 x 5	
		49
	12 x 12	



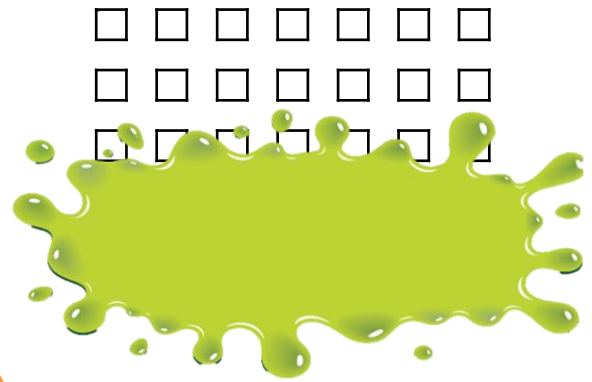
Square Numbers

9a. Which squared number could this diagram represent?



Square Numbers

9b. Which squared number could this diagram represent?



10a. Calculate:

$$3^2 + 5$$

$$11^2 - 10$$

$$7^2 + 3$$

$$5^2 - 7$$

$$8^2 + 4$$

$$6^2 - 6$$



10b. Calculate:

$$1^2 + 3$$

$$12^2 - 5$$

$$10^2 - 4$$

$$9^2 + 9$$

$$4^2 + 8$$

$$3^2 + 12$$



11a. Circle the square numbers.

16	21	eleven	twenty two	46
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nine	225	twelve	36	twenty three
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sixty four	62	169	sixty eight	60
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11b. Circle the square numbers.

101	ninety two	81	110	121
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144	104	fifty two	36	forty nine
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sixty four	94	104	ninety four	400
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12a. Complete the table below.

12^2	12×12	144
13^2		
14^2		
15^2		



12b. Complete the table below.

	13×13	169
14^2	14×14	196
15^2		225
		400



Challenge

20 is the sum of two square numbers.

$$20 = 4^2 + 2^2$$

Using the example above, complete the following:

61 is the sum of two squared numbers.
What could they be?

113 is the sum of two squared numbers.
What could they be?

149 is the sum of 2 squared numbers.

$$149 = 10^2 + 7^2$$

2 squared numbers are added together to make an even number between 50 and 100. What could they be?

3 squared numbers are added together to make an odd number between 150 and 200. What could they be?

Solve the following problems.

I think of a number. I square it and take away 8. My answer is 41.
What was my number?

I think of another number. I square it and add 12. The answer is 48. What was my number?

Solve the following problems.

I think of a number. I square it, add 15 and times by 5. My answer is 255.
What was my number?

I think of another number. I square it, take away 15 and then add 25. My answer is 131. What was my number?

Henry says,

To find the square of a number, you multiply it by 2.



Is Henry right? Convince me.

Lin says,

Square numbers are easy!
15 squared equals 30.



Is Lin right? Convince me.