

Homework/Extension

Step 5: Square Numbers

National Curriculum Objectives:

Mathematics Year 5: (5C5d) [Recognise and use square numbers and cube numbers, and the notation for squared \(2\) and cubed \(3\)](#)

Mathematics Year 5:(5C8a) [Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Identify the correct statement. Including pictorial representations and full calculations as well as the notation for squared.

Expected Identify the correct statement. Including calculations using numbers.

Greater Depth Identify the correct statement. Including calculations using words.

Questions 2, 5 and 8 (Varied Fluency)

Developing Complete the calculations and compare the answers with a given number. Including pictorial representations and full calculations as well as the notation for squared.

Expected Complete the calculations and compare the answers with a given number.

Greater Depth Complete the calculations and compare the answers.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Explain which statement is correct. Including pictorial representations and full calculations as well as the notation for squared.

Expected Explain which statement is correct. Including some pictorial representations.

Greater Depth Explain which statement is correct. Including calculations using words.

More [Year 5 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Square Numbers

1. Tick the correct statement below.

A.  $= 4^2 = 4 \times 4$

B.  $= 4^2 = 2 \times 4$

C.  $= 4^2 = 1 \times 4$



A.



B.

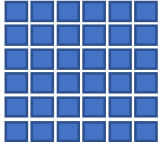


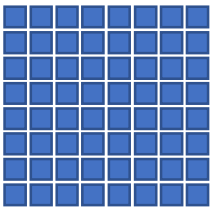
C.



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2. Use $<$, $>$ and $=$ symbols to compare the calculations below.

A.  $+$  $\bigcirc$ 47
 $6 \times 6 = 6^2$ $4 \times 4 = 4^2$

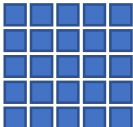
B.  $-$  $\bigcirc$ 60
 $8 \times 8 = 8^2$ $2 \times 2 = 2^2$

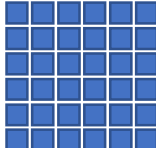


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3. Alex and Rose are discussing the arrays below.

 $= 3 \times 3 = 3^2$

 $= 5 \times 5 = 5^2$

 $= 6 \times 6 = 6^2$



Alex

2 of these are square numbers.

None of these are square numbers.



Rose

Who is correct? Prove it.



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Square Numbers

4. Tick the correct statement below.

A. A squared number is always an even number.

B. 69 is a squared number.

C. $9^2 = 9 \times 9 = 81$



A.



B.



C.



VF
HW/Ext

5. Use $<$, $>$ and $=$ symbols to compare the calculations below.

A. $3^2 + 4^2$ ○ 30

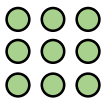
B. $7^2 + 8^2$ ○ 101

C. $5^2 - 2^2$ ○ 21



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6. Rachel and Nicky are discussing the numbers and arrays below.



55



36



Rachel

3 of these are square numbers.



Nicky

All of these are square numbers.

Who is correct? Prove it.



RPS
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Square Numbers

7. Tick the correct statement below.

A. When I add two even square numbers, my answer is always even.

B. When I multiply a square number that is odd with a prime number, the answer is always odd.

C. Twelve squared is twelve multiplied by eleven.



A.



B.



C.



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8. Use $<$, $>$ and $=$ symbols to compare the calculations below.

A. $4^2 + 5^2$ $\bigcirc$ $6^2 - 1^2$

B. $11^2 - 2^2$ $\bigcirc$ $9^2 + 6^2$

C. $6^2 - 3^2$ $\bigcirc$ $10^2 - 4^2$



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9. Stacey and Gary are discussing the calculation below.

The product of seven squared and four squared equals...



Stacey

The answer is
836.

The answer is
784.



Gary

Who is correct? Prove it.



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Homework/Extension

Square Numbers

Developing

1. **A**
2. **A. > ; B. =**
3. **Both children are incorrect. All of the numbers are square numbers. $3 \times 3 = 3^2 = 9$, $5 \times 5 = 5^2 = 25$ and $6 \times 6 = 6^2 = 36$.**

Expected

4. **C**
5. **A. < ; B. > ; C. =**
6. **Rachel is correct. $3 \times 3 = 3^2 = 9$, $2 \times 2 = 2^2 = 4$ and $36 = 6 \times 6 = 6^2$. 55 and 8 are not square numbers.**

Greater Depth

7. **A**
8. **A. > ; B. = ; C. <**
9. **Gary is correct. $7^2 = 7 \times 7 = 49$, $4^2 = 4 \times 4 = 16$, $49 \times 16 = 784$.**