

1. Copy homework in your planner

leave planner open on your desk so that I can see your homework

2. Copy the Table of Contents

3. Tape notebook guidelines to inside front cover of spiral

4. Tape the unit 1 calendar to page 1

Perfect Squares Introduction Activity

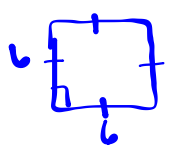
Use the graph paper side of the dry erase board to answer the following questions below.

1. Draw the smallest square possible following the lines of the grid. How many squares were used?
2. Draw the next smallest square possible following the lines of the grid. How many squares were used?
3. Draw another square one size larger. How many squares did you use?
4. Draw a rectangle that uses 25 squares. What is the length and the width of the rectangle? Can you create more than one rectangle?
5. Draw a rectangle that uses 30 squares? What is the length and width of the rectangle? Can you create more than one rectangle?
6. Draw a rectangle that uses 24 squares? What is the length and width of the rectangle? Can you create more than one rectangle?
7. Record the length and width of each of the figures that you created from the questions above. Describe any patterns that you see.

Length	Width	Number of Squares	$\sqrt{\text{Number of Squares}}$
1	1	1	$\sqrt{1} = 1$
2	2	4	$\sqrt{4} = 2$
3	3	9	$\sqrt{9} = 3$
5	5	25	$\sqrt{25} = 5$
6	5	30	X
6	4	24	X

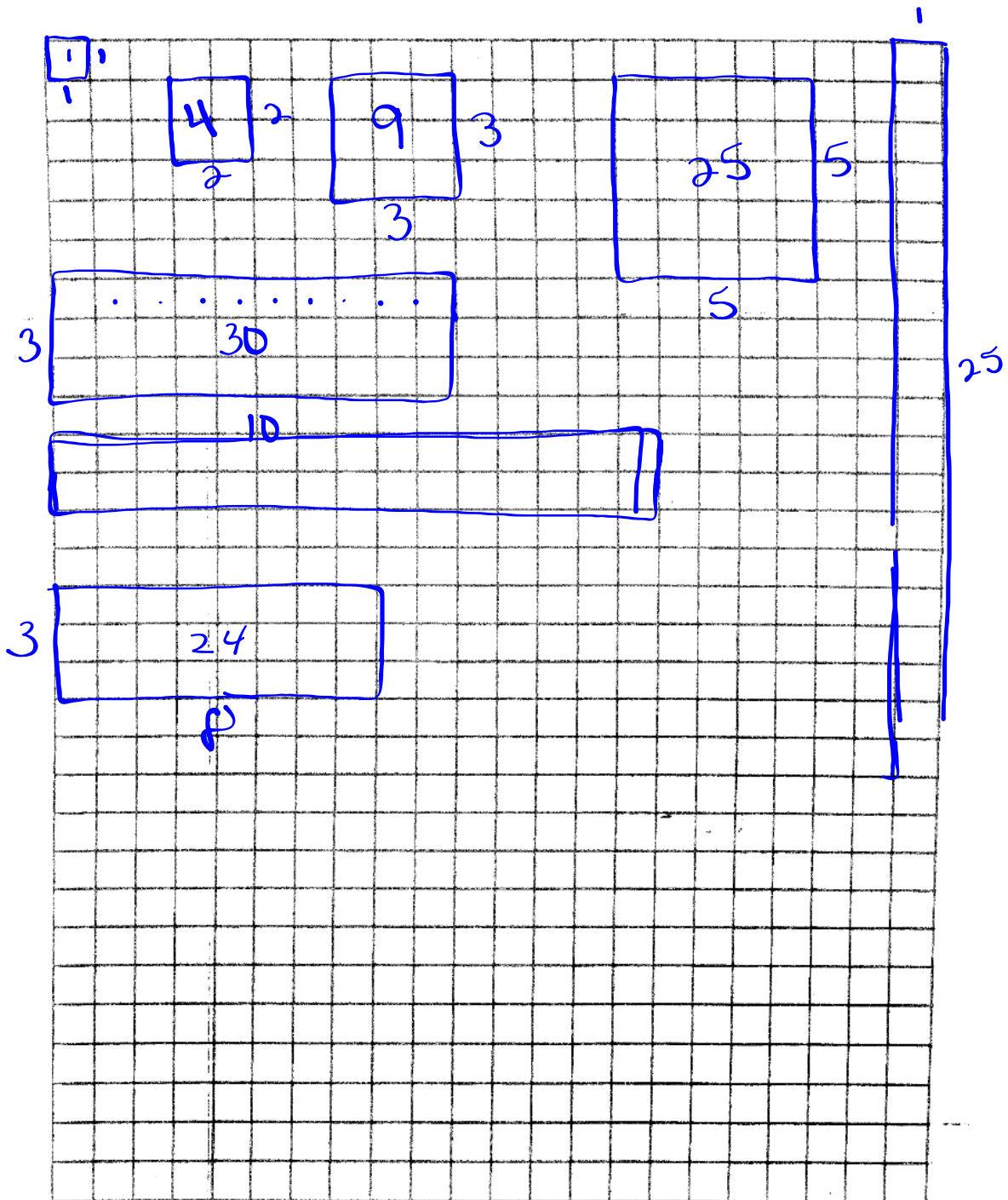
$\sqrt{\hspace{2cm}}$
Square Root

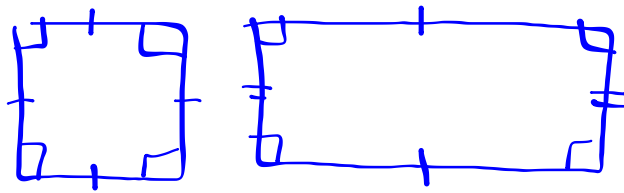
Key Concept:
A perfect square is a number with two identical factors.



$A = 36$
 $l = 6$
 $w = 6$

$\sqrt{36} = 6$
 $\star 6 \cdot 6 = 36$





Perfect Squares Chart

Name _____ Date _____

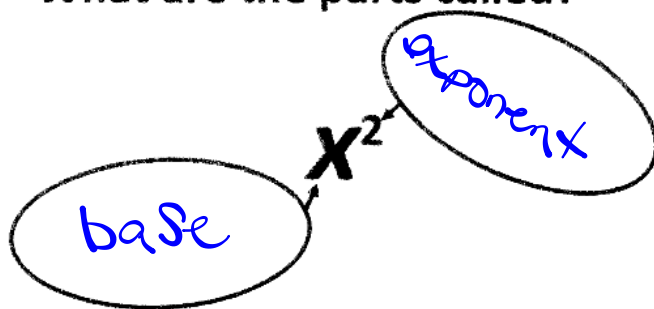
How can I write $9 \cdot 9$ in a condensed form? 9^2

This can be read as
 " nine squared " or
 " 9 to the power of 2. "

How can I write $4 \cdot 4$ in a condensed form? 4^2

This can be read as
 " four squared " or
 " 4 to the power of 2. "

What are the parts called?



PERFECT SQUARES

n	n^2
1	$1 \cdot 1 = 1$
2	$2 \cdot 2 = 4$
3	$3 \cdot 3 = 9$
4	16
5	25
6	36
7	49
8	64
9	81
10	100
11	121
12	144

$\sqrt{4} = 2$
 $\sqrt{9} = 3$

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples									
PERFECT SQUARES	<p>The square of an integer is called a <u>perfect square</u></p> <p>Generate the first 10 perfect squares below:</p> <p>1² 2² 3² 4² 5² 6² 7² 8² 9² 10²</p> <p>1 4 9 16</p>									
SQUARE ROOTS	<ul style="list-style-type: none"> The opposite of squaring a number is finding the <u>square root</u> Negative numbers have <u>NO</u> square roots. 									
RADICAL NOTATION	<ul style="list-style-type: none"> The radical sign, \sqrt{x}, is used to indicate the square root of x. \sqrt{x} is used to indicate the <u>positive</u> square root of x. 									
<p>Examples</p> <p>$12 \times 12 = 144$</p> $\begin{array}{r} 14 \\ \times 14 \\ \hline 56 \\ 140 \\ \hline 196 \end{array}$ $\begin{array}{r} 18 \\ \times 18 \\ \hline 144 \\ 180 \\ \hline 324 \end{array}$ $\begin{array}{r} 16 \\ \times 16 \\ \hline 96 \\ 160 \\ \hline 256 \end{array}$	<p>Directions: Find each square root.</p> <table border="1"> <tr> <td>1. $\sqrt{49}$ (7)</td> <td>2. $\sqrt{9}$ (3)</td> <td>3. $-\sqrt{4}$ (-2)</td> </tr> <tr> <td>4. $\sqrt{289}$ (17)</td> <td>5. $\sqrt{196}$ (14)</td> <td>6. $\sqrt{484}$ (22)</td> </tr> <tr> <td>7. $\sqrt{\frac{1}{16}}$ ($\frac{1}{4}$)</td> <td>8. $\sqrt{\frac{81}{25}}$ ($\frac{9}{5}$)</td> <td>9. $\sqrt{\frac{49}{144}}$ ($\frac{7}{12}$)</td> </tr> </table>	1. $\sqrt{49}$ (7)	2. $\sqrt{9}$ (3)	3. $-\sqrt{4}$ (-2)	4. $\sqrt{289}$ (17)	5. $\sqrt{196}$ (14)	6. $\sqrt{484}$ (22)	7. $\sqrt{\frac{1}{16}}$ ($\frac{1}{4}$)	8. $\sqrt{\frac{81}{25}}$ ($\frac{9}{5}$)	9. $\sqrt{\frac{49}{144}}$ ($\frac{7}{12}$)
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4. $\sqrt{289}$ (17)	5. $\sqrt{196}$ (14)	6. $\sqrt{484}$ (22)								
7. $\sqrt{\frac{1}{16}}$ ($\frac{1}{4}$)	8. $\sqrt{\frac{81}{25}}$ ($\frac{9}{5}$)	9. $\sqrt{\frac{49}{144}}$ ($\frac{7}{12}$)								
PERFECT VS. NON-PERFECT Squares	<p>Directions: CIRCLE each value that is a perfect square.</p> <p>(9) 32 50 (121) (1) 160 (64) 200 (324)</p> <p>If a number is not a perfect square, it's called a <u>non-perfect square</u>.</p>									

3·3

11·11 1·1

8·8

18·18

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$$\begin{array}{r} 18 \\ \times 18 \\ \hline 324 \end{array}$$

$$\begin{array}{r} 20 \\ \times 20 \\ \hline 400 \end{array}$$

$$\sqrt{484} =$$

$$\begin{array}{r} 21 \\ \times 21 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 22 \\ \times 22 \\ \hline 44 \\ 44 \\ \hline 484 \end{array}$$

Homework

As the Cat Dressed Up as a Cowboy Walked into a Saloon with His Arm in a Sling, What Did He Say?




Find each answer in the appropriate set of boxes at the bottom of the page. Write the letter of the exercise in the box containing the answer.

I. Find the length of one side (s) of each square.

(I) 
 $s = \underline{\hspace{2cm}}$ m

(O) 
 $s = \underline{\hspace{2cm}}$ cm

(M) 
 $s = \underline{\hspace{2cm}}$ ft

II. Find the square root.

- | | | | |
|------------------|--------------------|--------------------|---------------------|
| (T) $\sqrt{49}$ | (O) $\sqrt{16}$ | (E) $\sqrt{100}$ | (N) $\sqrt{81}$ |
| (R) $\sqrt{36}$ | (O) $\sqrt{4}$ | (I) $\sqrt{144}$ | (G) $\sqrt{1}$ |
| (H) $\sqrt{900}$ | (L) $\sqrt{2,500}$ | (F) $\sqrt{6,400}$ | (K) $\sqrt{10,000}$ |

III. Simplify.

- | | | |
|----------------------------|-----------------------------|----------------------------|
| (O) 15^2 | (W) 11^2 | (T) 25^2 |
| (A) $\sqrt{225}$ | (O) $\sqrt{121}$ | (W) $\sqrt{625}$ |
| (N) $\sqrt{16} + \sqrt{9}$ | (A) $\sqrt{36} + \sqrt{64}$ | (M) $\sqrt{25} - \sqrt{9}$ |
| (S) $\sqrt{16 + 9}$ | (M) $\sqrt{36 + 64}$ | (H) $\sqrt{25 - 9}$ |
| (Y) $\sqrt{0.25}$ | (H) $\sqrt{0.81}$ | (P) $\sqrt{0.01}$ |

Answers for Part I and Part II

12	20	11	50	4	2	100	5	9	1	60	80	8	6	3	7	30	10	90
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Answers for Part III

2	14	7	18	121	0.9	225	12	5	4	11	625	0.4	10	0.5	715	0.1	15	25
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