

Squares & Square Roots

TASK CARDS!

Question 8

Is 132 a perfect square?
Explain why or why not.

MATH

Mama

Question 18

Which number (from the table) could be placed in the blank to make the statement true?

$$-\sqrt{256} = \underline{\hspace{2cm}}$$

-18

-16

-14

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Question 23

The number $\sqrt{212}$ lies between which two consecutive whole numbers?

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Squares and Square Roots

TASK CARDS!

Mathematical Goals:

Students will...

- Identify the perfect squares from 0 to 400
- Identify the two consecutive whole numbers between which the square root of a given whole number lies
- Define a perfect square
- Find the positive or positive and negative square roots of a given whole number from 0 to 400

Task Card Assembly Directions:

- 1) Print one recording sheet for each of your students. The recording sheet can be found on pages 4 and 5.
- 2) Print and cut out the task cards (pages 6-10). Make as many sets of the task cards as you need.

{Ideas regarding how to use the task cards in your classroom can be found on the next page!}



Question

What is 1^2 ?

Question 13

What is $\pm\sqrt{100}$?

Question 8

Is 132 a perfect square?
Explain why or why not.

Question 18

Which number (from the table) could be placed in the blank to make the statement true?

$-\sqrt{256} = \underline{\hspace{2cm}}$
-18 -16 -14

Question 23

The number $\sqrt{212}$ lies between which two consecutive whole numbers?

Squares and Square Roots TASK CARDS!

Task Cards Directions:

There are so many ways to utilize task cards in the classroom! A few ideas are below, but feel free to use the cards however you would like.

1. Print 1 or 2 sets of task cards depending on the number of students enrolled in your classes. Give each student a card and 2-3 minutes to answer the question on his/her card. Then, have learners stand up and walk around the room, trading cards with their peers. When two students trade cards they should each work the new problem on their student activity sheet. Afterwards, students should check answers with one-another and verify that they agree or work out any disagreements. As soon as the two students agree upon an answer, they should take back their original cards and move on to find another classmate to trade with.
2. Print a set of cards for every 2-3 students. Then, assign each card a point value (I usually give values of 1, 2, or 3) based on their difficulty level. Have students work in pairs/small groups to complete the questions on each task card. After enough time has been given, have groups trade and grade each others' answers. Every correct answer earns the group the point value associated with that card. Whichever partnership/small group has the most points after all problems have been graded, wins!

30 Task Cards +
Student Recording
Sheet!

Answer Key
Included!

Question 6

Plot 3^2 on a number line.

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Question 10

Fill in the blanks below:

a) $4^2 = \underline{\hspace{2cm}}$

b) $\underline{\hspace{2cm}} = -\sqrt{25}$

c) $6^2 = \underline{\hspace{2cm}}$

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Question 17

Which point represents $\sqrt{144}$?


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squares and square roots: **TASK CARDS!**

Name: _____

Date: _____ Period: _____

Directions: Answer the questions on the task cards in the appropriate space below. Make sure to show all of your thinking!

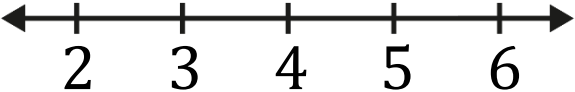
1)	2)	3)
4)	5)	6) 
7)	8)	9) a) _____ b) _____ c) _____
10) a) _____ b) _____ c) _____	11)	12)
13)	14)	15)
16)	17)	18)

squares and square roots: **TASK CARDS!**

Name: _____

Date: _____ Period: _____

Directions: Answer the questions on the task cards in the appropriate space below. Make sure to show all of your thinking!

19) A) $-\sqrt{400} = -20$ B) $\pm\sqrt{296} = \pm 14$ C) $\sqrt{289} = 17$ D) $\pm\sqrt{324} = \pm 18$	20)	21)
22)	23)	24) 
25)	26)	27)
28)	29)	30)

Question 1

What is 1^2 ?

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Question 2

What is 18^2 ?

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Question 3

What is $(-7)^2$?

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Question 4

What is 14^2 ?

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Question 5

Which of the following is
NOT a perfect square?

121	400	4
100	81	300

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Question 6

Plot 3^2 on a number
line.

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Question 7

List the perfect squares between 200 and 300.

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Question 8

Is 132 a perfect square?
Explain why or why not.

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Question 9

Fill in the blanks below:

- a) _____ = $\sqrt{64}$
- b) $12^2 =$ _____
- c) _____ = $\sqrt{169}$

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Question 10

Fill in the blanks below:

- a) $4^2 =$ _____
- b) _____ = $-\sqrt{25}$
- c) $6^2 =$ _____

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Question 11

What is $\sqrt{0}$?

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Question 12

What is $-\sqrt{36}$?

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Question 13

What is $\pm\sqrt{100}$?

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Question 14

What is $\sqrt{361}$?

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Question 15

Order the following integers from least to greatest.

$\sqrt{1}$, $-\sqrt{9}$, $-\sqrt{4}$, $\sqrt{16}$

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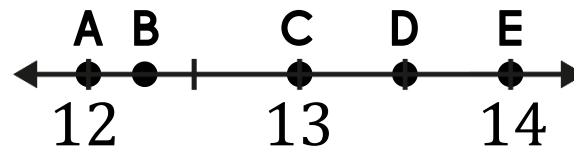
Question 16

Ally wants to make a giant square cookie with an area of 121 square centimeters. What are the dimensions of Ally's cookie?

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Question 17

Which point represents $\sqrt{144}$?



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Question 18

Which number (from the table) could be placed in the blank to make the statement true?

$-\sqrt{256} = \underline{\hspace{2cm}}$

-18

-16

-14

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Question 19

Which of the following are true? Circle all that apply.

- A) $-\sqrt{400} = -20$
- B) $\pm\sqrt{296} = \pm 14$
- C) $\sqrt{289} = 17$
- D) $\pm\sqrt{324} = \pm 18$

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Question 20

The number $\sqrt{105}$ lies between which two consecutive whole numbers?

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Question 21

The number $\sqrt{270}$ lies between which two consecutive whole numbers?

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Question 22

The number $\sqrt{67}$ lies between which two consecutive whole numbers?

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Question 23

The number $\sqrt{212}$ lies between which two consecutive whole numbers?

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Question 24

Plot each number below on a number line. Make sure to label each point you plot.

$\sqrt{22}$	$\sqrt{15}$	
$\sqrt{10}$	$\sqrt{7}$	$\sqrt{19}$

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Question 25

Identify all the numbers in the table below that are *between* 19 and 20.

$\sqrt{299}$	$\sqrt{362}$	$\sqrt{415}$
$\sqrt{375}$	$\sqrt{399}$	$\sqrt{500}$

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Question 26

The length of a side of a square whose area is 150 in^2 is between which 2 consecutive whole numbers?

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Question 27

Which of the following describes $\sqrt{42}$ best?

- A) Exactly 6
- B) Exactly 7
- C) Exactly 21
- D) Between 6 and 7
- E) Between 20 and 22

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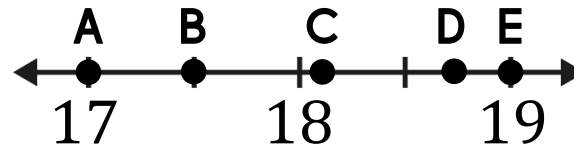
Question 28

Name two whole numbers whose square roots would fall between 5 and 6.

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Question 29

Which point on the number line below represents $\sqrt{352}$?



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Question 30

The square root of which number falls between 8 and 9?

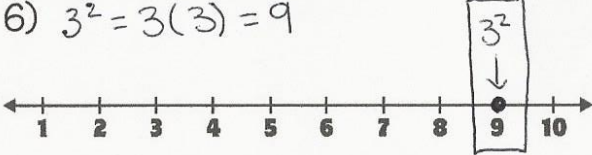
- A) 8
- B) 64
- C) 9
- D) 85
- E) 72

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squares and square roots: **TASK CARDS!**

Name: Key
Date: _____ Period: _____

Directions: Answer the questions on the task cards in the appropriate space below. Make sure to show all of your thinking!

<p>1) $1^2 = 1(1) = \boxed{1}$</p>	<p>2) $18^2 = 18(18) = \boxed{324}$</p>	<p>3) $(-7)^2 = -7(-7) = \boxed{49}$</p>
<p>4) $14^2 = 14(14) = \boxed{196}$</p>	<p>5) $\sqrt{121} = 11$ $\sqrt{4} = 2$ $\sqrt{100} = 10$ $\sqrt{300} \approx 17.32$ $\sqrt{400} = 20$ $\sqrt{81} = 9$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>300 is NOT a perfect square</p> </div>	<p>6) $3^2 = 3(3) = 9$</p> 
<p>7) $14^2 = 196$ $15^2 = 225$ $16^2 = 256$ $17^2 = 289$ $18^2 = 324$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>225, 256, 289</p> </div>	<p>8) $\sqrt{132} \approx 11.5$</p> <p>132 is NOT a perfect square because its square root is not an integer.</p>	<p>9) a) $\frac{8}{-}$ b) $\frac{144}{-}$ c) $\frac{13}{-}$</p>
<p>10) a) $\frac{16}{-}$ b) $\frac{-5}{-}$ c) $\frac{36}{-}$</p>	<p>11) $\sqrt{0} = \boxed{0}$</p>	<p>12) $-\sqrt{36} = \boxed{-6}$</p>
<p>13) $\pm\sqrt{100} = \boxed{\pm 10}$</p>	<p>14) $\sqrt{361} = \boxed{19}$</p>	<p>15) $\sqrt{1} = 1$ $-\sqrt{9} = -3$ $\sqrt{16} = 4$ $-\sqrt{4} = -2$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>$-\sqrt{9}, -\sqrt{4}, \sqrt{1}, \sqrt{16}$ OR $-3, -2, 1, 4$</p> </div>
<p>16) $\sqrt{121} = 11$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>11cm x 11cm</p> </div>	<p>17) $\sqrt{144} = 12$</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>point A</p> </div>	<p>18) $-\sqrt{256} = \boxed{-16}$</p>

squares and square roots: **TASK CARDS!**

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Date: _____ Period: _____

Directions: Answer the questions on the task cards in the appropriate space below. Make sure to show all of your thinking!

<p>19)</p> <p>A) $-\sqrt{400} = -20$ B) $+\sqrt{296} = \pm 14$ C) $\sqrt{289} = 17$ D) $\pm\sqrt{324} = \pm 18$</p> <p>A, C, & D are true.</p>	<p>20)</p> <p>105 is between 100 and 121. $\sqrt{100} = 10$ $\sqrt{121} = 11$</p> <p>$10 \& 11$</p>	<p>21)</p> <p>270 is between 256 and 289 $\sqrt{256} = 16$ $\sqrt{289} = 17$</p> <p>$16 \& 17$</p>
<p>22)</p> <p>67 is between 64 and 81. $\sqrt{64} = 8$ $\sqrt{81} = 9$</p> <p>$8 \& 9$</p>	<p>23)</p> <p>212 is between 196 and 225. $\sqrt{196} = 14$ $\sqrt{225} = 15$</p> <p>$14 \& 15$</p>	<p>24)</p>
<p>25)</p> <p>$19^2 = 361$ $20^2 = 400$</p> <p>$\sqrt{362}$, $\sqrt{375}$, $\sqrt{399}$</p>	<p>26)</p> <p>150 is between 144 and 169 $\sqrt{144} = 12$ $\sqrt{169} = 13$</p> <p>$12 \& 13 \text{ in.}$</p>	<p>27)</p> <p>42 is between 36 and 49 $\sqrt{36} = 6$ $\sqrt{49} = 7$</p> <p>D</p>
<p>28) Any of the following: 26, 27, 28, 29, 30, 31, 32, 33, 34, 35</p>	<p>29)</p> <p>$\sqrt{352} \approx 18.76$</p> <p>Point D</p>	<p>30)</p> <p>$8^2 = 64$ $9^2 = 81$ We need a number <u>between</u> 64 & 81.</p> <p>E</p>

Thank You

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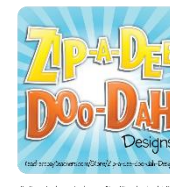
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Credits:

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