BRING TEXTBOOK!!!

(Unless you already ripped out your homework page)

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Warmup $8/|-20|$

TODAY'S WARMUP WILL NOT GO ON YOUR WARMUP PAGE. IT WILL GO ON A NOTECARD. ON YOUR WARMUP PAGE, JUST WRITE "NOTECARD."

1) Convert 0.42 into a fraction. Simplify if possible.
2) Convert $0.\overline{7}$ into a fraction. Simplify if possible.
3) Convert 2.307 into a fraction. Simplify if possible.
4) Convert $0.\overline{65}$ into a fraction. Simplify if possible.
5) Convert into a decimal: $\frac{5}{12}$
6) Without doing any long division, estimate the value of $\frac{305}{98}$.

1) Convert 0.42 into a fraction. Simplify if possible. $\frac{42}{100} \rightarrow \frac{21}{50}$

2) Convert $0.\overline{7}$ into a fraction. Simplify if possible. $\frac{7}{9}$

3) Convert 2.307 into a fraction. Simplify if possible. $2\frac{307}{1000}$

4) Convert $0.\overline{65}$ into a fraction. Simplify if possible. $\frac{65}{99}$

5) Convert into a decimal: $\frac{5}{12}$ $0.41\overline{6}$

6) Without doing any long division, estimate the value of $\frac{305}{98}$.

≈ 3.11

REMEMBER: QUIZ ON FRIDAY

- Converting fractions to decimals using long division
- Estimating the value of fractions
- Converting decimals to fractions using place value
- Converting repeating decimals to fractions
- Finding exact square roots
- Estimating square roots

Another announcement:

- Groups that aren't done with their poster: YOU NEED TO FINISH ASAP!!! You are losing points each day it is late.

- You need to come up with a plan to figure out who is doing what! Options:
  - Meet as a group during lunch
  - Work on stuff separately during PLT
  - Work on stuff separately at home

Answers: p.11 (1 – 15)

1. 0.4
2. 2.125
3. 0.825
4. $0.\overline{12}$
5. $-0.\overline{54}$
6. $-7.1\overline{7}$

(Count these as 4 separate problems)

7. a. $0.0\overline{6}$ b. $0.1\overline{6}$
   c. 0.333 d. 0.417
8. $-\frac{2}{5}$
9. $-7\frac{8}{25}$
10. $\frac{2}{9}$
11. $-\frac{5}{11}$
12. $2\frac{7}{9}$
13. $5\frac{11}{20}$
14. $\frac{7}{8}$ in, 0.875 in
15. $1\frac{1}{16}$ in, 1.0625 in

Table of Contents

Roots (1.8 & 1.9)

Objective:

-Find exact roots of a number

-Estimate roots of non-perfect squares (tomorrow)

Haven't we learned these before?!?!?!?

- It's true; you have already learned about square roots before. Our goal now is to **think more deeply** about them.

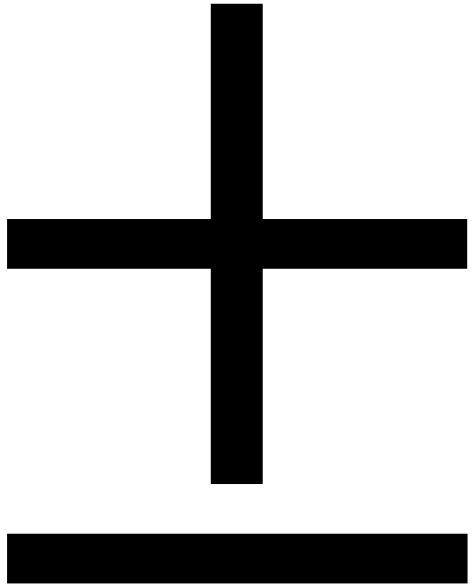
The **square root** of a number is the number you take times itself to get that number.

For example…

$$\sqrt{9} = \_\_\_$$

Yes, $-3 \cdot -3$ also $= 9$. But the square root is always assumed to be the positive one.

EVER SEEN THIS?????



Positive and negative roots

- A normal square root is always positive:
  - $\sqrt{9} = 3$
- This would mean to take the negative square root:
  - $-\sqrt{36} = -6$
- This means to take the positive **and** negative square roots.
  - $\pm\sqrt{100}$

You would write "10, –10", or you could write ± 10

Perfect Squares

- **Perfect Square:** A number that has a whole number square root
- Copy in your notes and complete the table. Go to at least row 15.

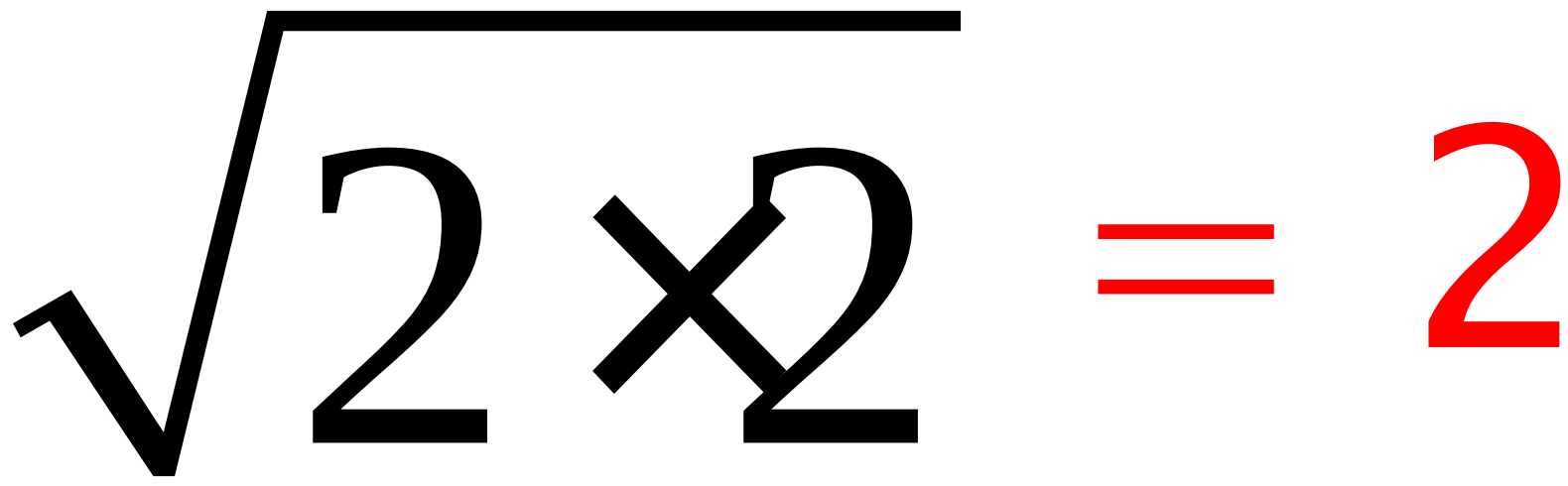
Perfect Squares Chart
$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
more rows

$$\sqrt{81} = 9$$

$$\sqrt{64} = 8$$

$$\sqrt{144} = 12$$

$$\sqrt{361} = 19$$

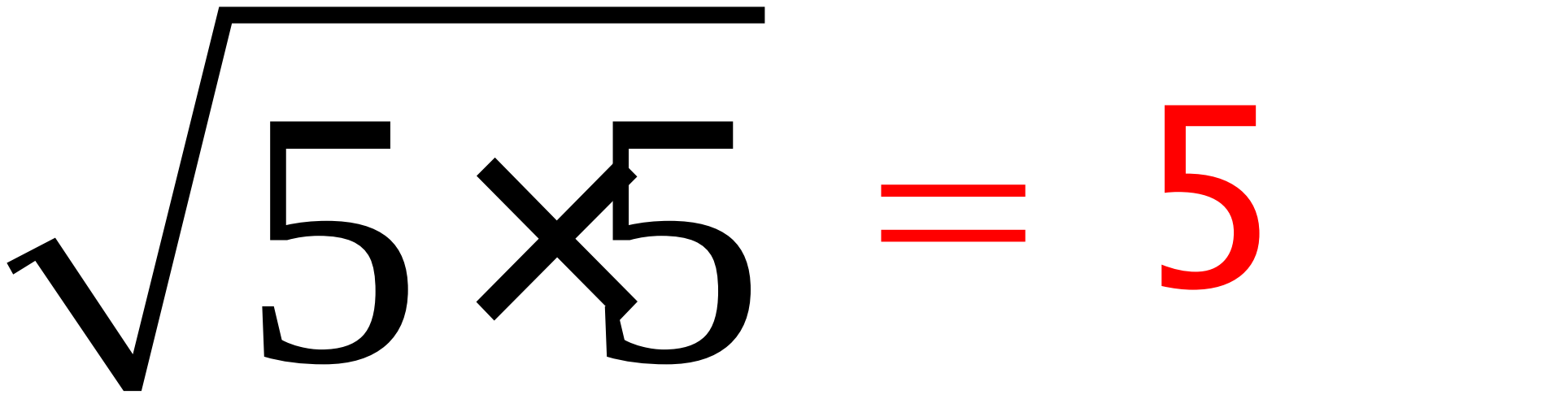


$$\sqrt{9} = 3$$

$$\sqrt{289} = 17$$

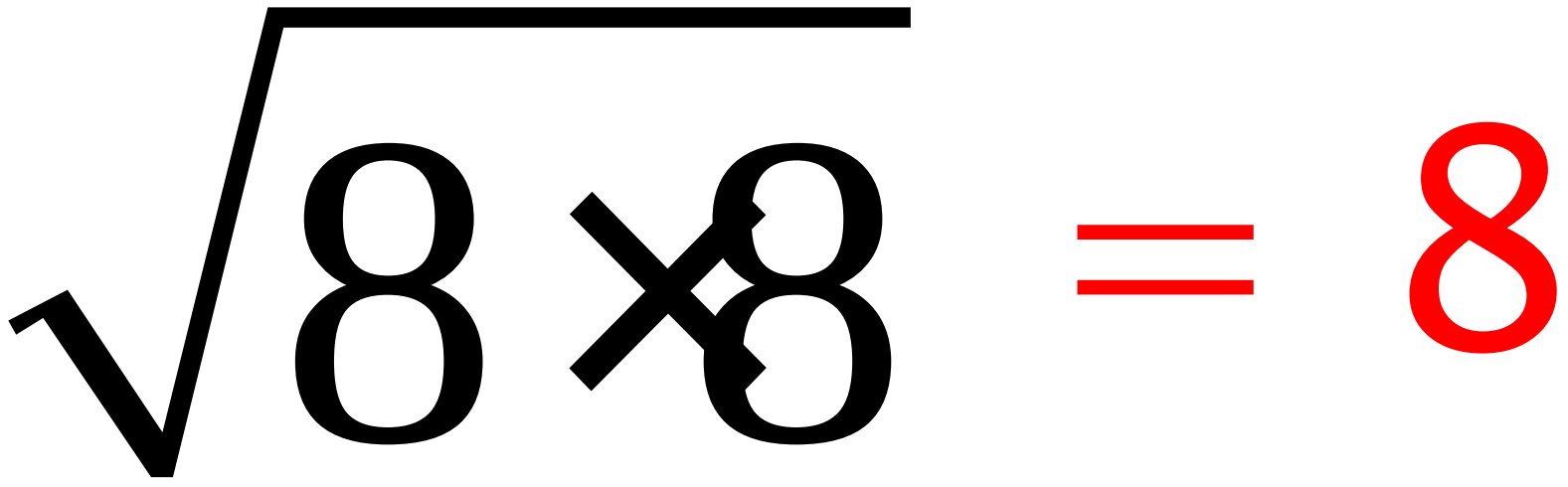
$$\sqrt{25} = 5$$

$$\sqrt{121} = 11$$


√5×5 = 5

$$\sqrt{400} = 20$$

$$\sqrt{49} = 7$$


$\sqrt{8 \times 8} = 8$

$$\sqrt{196} = 14$$

$$\sqrt{4} = 2$$

$$\sqrt{225} = 15$$

$$\sqrt{19 \times 19}$$

$$= 19$$

$$\sqrt{100} = 10$$

$$\sqrt{36} = 6$$

$$\sqrt{169} = 13$$

$$\sqrt{7^2} = 7$$

$$\sqrt{256} = 16$$

$$\sqrt{16} = 4$$

$$\sqrt{324} = 18$$

$$\sqrt{24 \times 24}$$

$$= 24$$

$$\sqrt{361} = 19$$

$$\sqrt{289} = 17$$

$$\sqrt{196} = 14$$

$$\sqrt{225} = 15$$

$$\sqrt{169} = 13$$

$$\sqrt{256} = 16$$

$$\sqrt{16^2} = 16$$

$$\sqrt{324} = 18$$

$$\sqrt{169} = 13$$

$$\sqrt{18 \times 18}$$

$$= 18$$

$$\sqrt{324} = 18$$

$$\sqrt{289} = 17$$

$$\sqrt{196} = 14$$

$$\sqrt{225} = 15$$

$$\sqrt{361} = 19$$

$$\sqrt{256} = 16$$

Homework

- p.75 (1–4, 10, 16, 18–23)

- No calculator. You **MUST** show your work on problems 2, 10, and 16.