

# STUDY GUIDE - REAL NUMBERS

NAME \_\_\_\_\_

Date \_\_\_\_\_ HR \_\_\_\_\_

## 8.EE.A.2

1. Study the numbers shown. Determine if each is a square number, a cubic number, both a square and a cubic, or neither. Write each number in the appropriate column on the table

Number	Square number	Cubic Number	Both Square and Cubic number	Neither Square nor Cubic Number
49				
-125				
24				
1				
216				

2. Answer the following

A.  $\sqrt[3]{-27} =$

B.  $-\sqrt{256} =$

C.  $\sqrt{400} =$

D.  $\sqrt{\frac{25}{121}}$

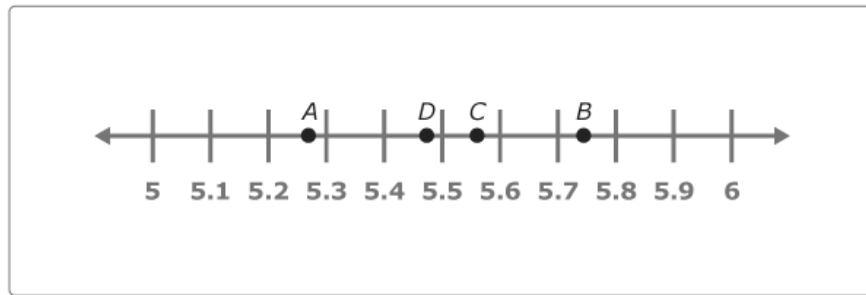
E.  $-\sqrt{\frac{36}{64}}$

F.  $\sqrt[3]{-343} =$

3. Mark wants to raise some pigs. He has researched the size of the pen that is needed to raise pigs. He also found that the best shape for the pen is a square. Mark decides to build a square pen that has an area of 6400 square feet. What should the **length of each side** of the pen be?
4. A square has an area of 320 square feet. What is the approximate **length of a side** of the square? Give your answer to the nearest foot.
5. Roxanne wants to put a fence around her square flower garden to keep the deer out. Her garden has an area of 250 square feet. Which is the best ESTIMATE for the number of feet of fencing Roxanne needs to **enclose her garden**? Hint: the fencing will go around all 4 sides.
- A. 64 feet                      C. 50 feet
- B. 25 feet                      D. 15 feet

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6. Tom placed the points shown on the number line to represent the approximate values of some square roots.



Choose the radical below that best represents each point on the line.

$\sqrt{27}$

$\sqrt{28}$

$\sqrt{29}$

$\sqrt{30}$

$\sqrt{31}$

$\sqrt{32}$

$\sqrt{33}$

Point A \_\_\_\_\_

Point C \_\_\_\_\_

Point B \_\_\_\_\_

Point D \_\_\_\_\_

7. Classify each number below as *rational* or *irrational*.

A.  $\sqrt{20}$

G.  $\sqrt{25}$

B. 0.235235235...

H.  $\sqrt{\frac{7}{12}}$

C.  $\pi$

I. 0.157093....

D.  $\frac{5}{13}$

J.  $\sqrt{\frac{25}{81}}$

8. Below are fractions with decimal expansions. A bar has been used to show what digits repeat. Which of the following decimal expansions are correct? *Circle all that apply.*

A.  $\frac{4}{7} = .\overline{571}$

C.  $\frac{8}{27} = .\overline{296}$

B.  $\frac{8}{15} = .\overline{53}$

D.  $\frac{5}{12} = \overline{.416}$

9. Rewrite each decimal as a fraction in lowest terms.

A. 0.45 =

C.  $\overline{0.27} =$

B. 0.425 =

D. 0.6 =