

### 3.6 Perfect Cubes and using the calculator to estimate Square and Cube Roots

December 20, 2015

8th Grade  
Perfect Cubes and using the  $\sqrt{\quad}$  and  $\sqrt[3]{\quad}$  buttons on your calculator

- $1^3 = 1$
- $3^3 = 27$
- $5^3 = 125$
- $7^3 = 343$
- $9^3 = 729$
- $2^3 = 8$
- $4^3 = 64$
- $6^3 = 216$
- $8^3 = 512$
- $10^3 = 1,000$

Handwritten notes:  $5 \cdot 5 = 25$ ,  $3 \cdot 3 \cdot 3 = 27$ ,  $\sqrt[3]{27} = 3$

$\sqrt[3]{1} = 1$	$\sqrt[3]{8} = 2$
$\sqrt[3]{27} = 3$	$\sqrt[3]{64} = 4$
$\sqrt[3]{125} = 5$	$\sqrt[3]{216} = 6$
$\sqrt[3]{343} = 7$	$\sqrt[3]{512} = 8$
$\sqrt[3]{729} = 9$	$\sqrt[3]{1000} = 10$

Number	Cube	Sum of Digits of the Cube
1	1	1
2	8	8
3	27	9
4	64	1
5	125	8
6	216	9
7	343	1
8	512	8
9	729	9
10	1000	1

Return

Perfect Cube, Perfect Square, or Neither?

$$\sqrt[3]{27} = 3$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{625} = 25$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{32} \text{ Neither}$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{100} = 10$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt[3]{1000} = 10$$

### 3.6 Perfect Cubes and using the calculator to estimate Square and Cube Roots

December 2015

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{258} \text{ Neither}$$
$$\sqrt{256} = 16$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{400} = 20$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt[3]{216} = 6$$

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{64} = 8$$
$$\sqrt[3]{64} = 4$$

Both

back to  
1st  
page

Perfect Cube, Perfect Square, or Neither?

$$\sqrt{196} = 14$$

Putting Square Roots into the calculator

- 1)  $\sqrt{33} \approx 5.7$
- 2)  $\sqrt{484} = 22$
- 3)  $\sqrt{115} \approx 10.7$
- 4)  $\sqrt{121} = 11$
- 5)  $\sqrt{550} \approx 23.5$

Putting Cube Roots into the calculator

Find  $\sqrt[n]{x}$  : type 3  $\rightarrow$   $\sqrt{\quad}$  (2<sup>nd</sup>  $\wedge$ )  $\rightarrow$  #<sub>inside</sub>

1)  $\sqrt[3]{45} \approx 3.6$

2)  $\sqrt[3]{64} = 4$  Perfect Cube

3)  $\sqrt[3]{729} = 9$

4)  $\sqrt[3]{125} = 5$

5)  $\sqrt[3]{8} = 2$

# Homework Worksheet