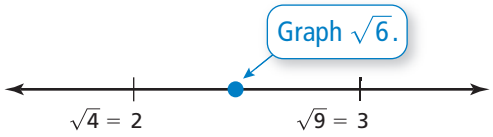
# REVIEW: Approximating Square Roots

Name _____

## Key Concept and Vocabulary

To approximate a square root to the nearest integer, use a number line and the square roots of the perfect squares nearest to the number. Then determine which perfect square is closer to the radicand.


## Visual Model

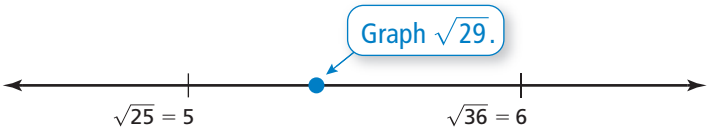



$\sqrt{6} \approx 2$ because 6 is closer to 4 than to 9.

## Skill Example

**1.** $\sqrt{29} \approx 5$

The nearest perfect square less than 29 is 25. The nearest perfect square greater than 29 is 36. Because 29 is closer to 25 than to 36, $\sqrt{29}$ is closer to 5 than to 6.




## PRACTICE MAKES *PURR*-FECT®

*Check your answers at BigIdeasMath.com.*

**Estimate to the nearest integer.**

**2.** $\sqrt{60} \approx$ _____ **3.** $\sqrt{14} \approx$ _____ **4.** $\sqrt{86} \approx$ _____ **5.** $\sqrt{19} \approx$ _____

**6.** $\sqrt{77} \approx$ _____ **7.** $\sqrt{138} \approx$ _____ **8.** $-\sqrt{45} \approx$ _____ **9.** $-\sqrt{103} \approx$ _____

**Graph the two numbers. Then compare them using < or >.**

**10.** $5 \square \sqrt{5}$ 

**11.** $3\frac{1}{4} \square \sqrt{13}$ 

**12.** $\sqrt{20} \square 4\frac{4}{5}$ 

**13.** $\sqrt{47} \square 6.1$ 

**14.** $9.3 \square \sqrt{96}$ 

**15.** $-3.5 \square -\sqrt{15}$ 

**16. PLATE** The radius of a circle with area $A$ is approximately $\sqrt{\frac{A}{3}}$. The area of a plate is 81 square inches. Estimate the radius of the plate to the nearest inch. _____

**17. DECK** The area of a square deck is 248 square feet. Estimate the length of one side of the deck to the nearest foot. _____