

4.6 Part 1 Square Roots

If $b^2 = a$, then b is the square root of a .

Ex: $3^2 = 9$, so 3 is a square root of 9 .

$(-3)^2 = 9$, so -3 is a square root of 9 too.

no negatives under the square root

All positive real numbers have two square roots:
a positive square root and a negative square root.

Square roots are written with a radical symbol $\sqrt{\quad}$.
The number or expression inside the symbol is the radicand.

EXAMPLES: Evaluate the expressions.

$$1. \sqrt{64} = 8$$

$$2. -\sqrt{64} = -8$$

$$3. \sqrt{71} = \sqrt{71}$$

$$4. \sqrt{0} = 0$$

EXAMPLES: Evaluate the expressions.

$$5. \sqrt{225} = \boxed{15}$$

$$6. \pm\sqrt{169} = \boxed{\pm 13}$$

plus/
minus
Sign

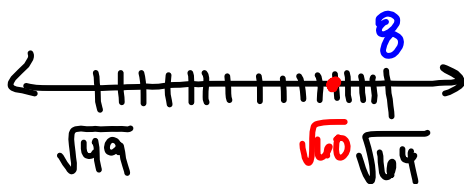
$$7. \sqrt{-16}$$

NO solution

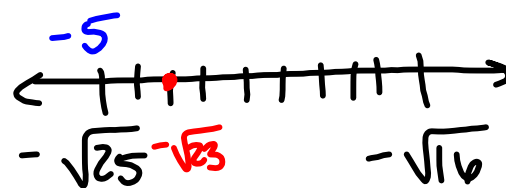
$$8. -\sqrt{625} = \boxed{-25}$$

Estimate each square root to the nearest integer.

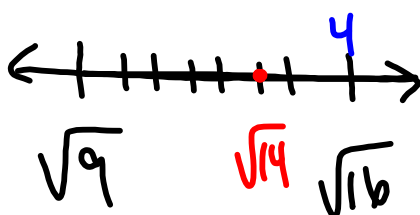
$$9. \sqrt{60} \approx 8$$



$$10. -\sqrt{23} \approx -5$$



$$11. \sqrt{14} \approx 4$$



$$12. -\sqrt{79} \approx -9$$

