7.1

FINDING SQUARE ROOTS

Today's Learning Goals:

- **Find square roots of perfect squares.**
- **Evaluate expressions involving square roots.**
- **Use square roots to solve equations.**

Do Now

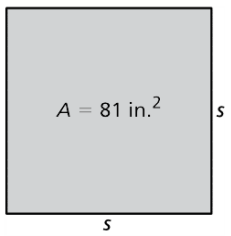
Find the product.

1. 12×12 **2.** 9×9 **3.** 18×18

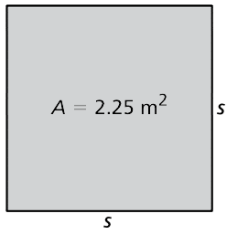
4. 1.6×1.6 **5.** 2.5×2.5 **6.** $\frac{2}{3} \times \frac{2}{3}$

Do Now

7)



8)



Perfect Squares

Perfect Squares that you should memorize

1^2	7^2	13^2
2^2	8^2	14^2
3^2	9^2	15^2
4^2	10^2	16^2
5^2	11^2	20^2
6^2	12^2	25^2

Roots Review

Parts of a Root

$\sqrt{4}$

Roots Review

Parts of a Root

$\sqrt[2]{4}$

Roots Review

Perfect Roots that you should memorize

$\sqrt{1}$	$\sqrt{49}$	$\sqrt{169}$
$\sqrt{4}$	$\sqrt{64}$	$\sqrt{196}$
$\sqrt{9}$	$\sqrt{81}$	$\sqrt{225}$
$\sqrt{16}$	$\sqrt{100}$	$\sqrt{256}$
$\sqrt{25}$	$\sqrt{121}$	$\sqrt{400}$
$\sqrt{36}$	$\sqrt{144}$	$\sqrt{625}$

Lesson

$$\sqrt{64}$$

$$-\sqrt{64}$$

$$\pm\sqrt{64}$$

Positive and...

Find the two square roots of 49.

Finding Square Roots

Find the square root(s).

a. $\sqrt{25}$

b. $-\sqrt{\frac{9}{16}}$

c. $\pm\sqrt{2.25}$

On Your Own

Find the two square roots of the number.

1. 36 **2.** 100 **3.** 121

Find the square root(s).

4. $-\sqrt{1}$ **5.** $\pm\sqrt{\frac{4}{25}}$ **6.** $\sqrt{12.25}$

Special property of roots

$\sqrt{3^2}$ $\sqrt{5^2}$

Special property of roots

$\left(\sqrt{8}\right)^2$ $\left(\sqrt{11}\right)^2$

Operations with Square Roots

Evaluate each expression.

a. $5\sqrt{36} + 7$

PE(R)MDAS

b. $\frac{1}{4} + \sqrt{\frac{18}{2}}$

Operations with Square Roots

Evaluate each expression.

c. $(\sqrt{81})^2 - 5$

On Your Own

Evaluate each expression.

a. $2\sqrt{144} - 30$

b. $\sqrt{\frac{36}{4}} + \frac{1}{6}$

On Your Own

c. $49 - \left(\sqrt{49}\right)^2$