Lesson 7.1:

Finding Square Roots

Squares

$1^2 = 1$ $7^2 = 49$

$2^2 = 4$ $8^2 = 64$

$3^2 = 9$ $9^2 = 81$

$4^2 = 16$ $10^2 = 100$

$5^2 = 25$ $11^2 = 121$

$6^2 = 36$ $12^2 = 144$

You should already have these memorized.

The symbol $\sqrt{\ }$ is called a **radical sign**. The number under the radical sign is called the **radicand.**

Positive square root,	Negative square root,	Both square roots,
$\sqrt{16} = 4$	$-\sqrt{16} = -4$	$\pm\sqrt{16} = \pm 4$

Lack of a sign automatically means positive.

The - or $\pm$ symbol must be OUTSIDE OF the radical.

Evaluate each expression.

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

$5(6)+7$

$30+7$

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

$\frac{1}{4}+\sqrt{9}$

$\frac{1}{4}+3$

$3\frac{1}{4}$

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

$81-5$

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Evaluate the expression.

7. $12-3\sqrt{25}$

$12-3(5)$

$12-15$

-3

8. $\sqrt{\frac{28}{7}}+2.4$

$\sqrt{4}+2.4$

$2+2.4$

4.4

9. $15-\left(\sqrt{4}\right)^2$

$15-4$

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10. The area of a circle is 2826 square feet. Write and solve an equation to find the radius of the circle. Use 3.14 for π.

$A=\pi r^2$

$2826\,ft^2=3.14r^2$

$\div 3.14 \quad \div 3.14$

$\sqrt{900\,ft^2}=\sqrt{r^2}$

$30ft=r$