

Warm-Up

For ex: $x^3 = 8$

1. Determine which of the following is the solution to the equation below.

$$x^3 = 9$$

$\sqrt[3]{8}$

- A. $\sqrt[3]{27}$
- B. $\pm\sqrt[3]{9}$
- C. $\sqrt[3]{9}$
- D. $\pm\sqrt[3]{27}$

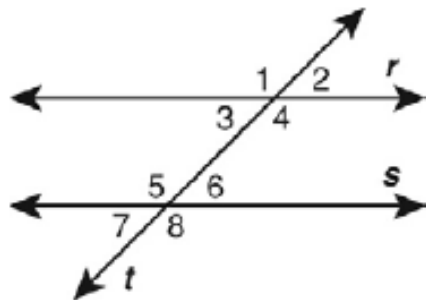
2. Which of the following rectangles is similar to a rectangle that measures 5 units by 12 units?

A 8×15

C 12×28

B 11×23

D 20×48



3. If line r and line s are parallel and $\angle 8$ measures 145° , what is the measure of $\angle 3$?

4. _____
Name all of the angles in the figure that are supplementary to $\angle 5$.

Extension from Friday.....

Need to convert a repeating decimal to a fraction?

Note the following pattern for repeating decimals:

$$0.\underline{2}2222222... = 2/9$$

$$0.\underline{54}545454... = 54/99$$

$$0.\underline{298}298298... = 298/999$$

Division by 9's causes the repeating pattern.

http://my.hrw.com/math06_07/nsmedia/lesson_videos/msm3/player.html?contentSrc=7307/7307.xml



Simplify Expressions Involving Square Roots

Simplify each expression.

A $3\sqrt{25} + 4$

$$\begin{aligned} 3\sqrt{25} + 4 &= \boxed{} \\ &= \boxed{} \\ &= \boxed{} \end{aligned}$$

Simplify the square root.
Multiply.
Add.

B $\sqrt{\frac{16}{4}} + \frac{1}{2}$

$$\begin{aligned} \sqrt{\frac{16}{4}} + \frac{1}{2} &= \boxed{} \\ &= \boxed{} \\ &= \boxed{} \end{aligned}$$

1. $\sqrt{5+11}$

2. $\sqrt{\frac{81}{9}}$

3. $3\sqrt{400} - 125$

4. $-(\sqrt{169} - \sqrt{144})$

Find the two square roots of each number.

1. 25

2. 144

3. 81

4. 169

5. 196

6. 400

7. 361

8. 225

9. Elisa found a square digital image of a famous painting on a Web site. The image contained 360,000 pixels. How many pixels tall is the image?

Simplify each expression.

10. $\sqrt{25} - 6$

11. $\sqrt{\frac{64}{4}}$

12. $-(\sqrt{36}\sqrt{9})$

13. $5(\sqrt{225} - 10)$

Compare. Write $<$, $>$, or $=$.

1. $4 + \sqrt{4}$ \blacksquare $8 - \sqrt{4}$

2. $16\sqrt{9}$ \blacksquare $9\sqrt{16}$

3. $-\sqrt{1} + 4$ \blacksquare $1 - \sqrt{36}$

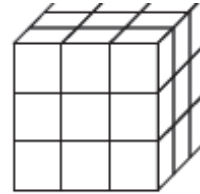
4. $x^3 = 216$, What is x ?

5. $x^3 = 8/125$, What is X ?

7. $\sqrt{\frac{16}{2}} + 1$

6. $\sqrt{x^2} = \sqrt{\frac{16}{169}}$

A cube shaped toy is made of 27 small cubes.
There are 3 cubes along each edge of the toy.



Another cube shaped toy is made using 8 small cubes.
How many small cubes are on each edge of this toy?

$$\sqrt[3]{125}$$

$$\sqrt[3]{\frac{1}{8}}$$

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

$$\sqrt[3]{\frac{1}{343}}$$

Find the square roots of each number.

1. 144 _____ 2. 256 _____ 3. $\frac{1}{81}$ _____
4. $\frac{49}{900}$ _____ 5. 400 _____ 6. $\frac{1}{100}$ _____

Find the cube root of each number.

7. 216 _____ 8. 8000 _____ 9. $\frac{27}{125}$ _____
10. $\frac{1}{27}$ _____ 11. $\frac{27}{64}$ _____ 12. 512 _____

Simplify each expression.

13. $\sqrt{16} + \sqrt{25}$ _____ 14. $\sqrt[3]{125} + 10$ _____ 15. $\sqrt{25} + 10$ _____
16. $8 - \sqrt{64}$ _____ 17. $\sqrt[3]{\frac{16}{2}} + 1$ _____ 18. $\sqrt{\frac{16}{4}} + \sqrt{4}$ _____

19. The foyer of Ann's house is a square with an area of 36 square feet. What is the length of each side of the foyer?

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Copy problems 9-12 on page 39,
put book back, then complete

Find the square roots of each number.

1. 144 ± 12

2. 256 ± 16

3. $\frac{1}{81}$ $\pm \frac{1}{9}$

4. $\frac{49}{900}$ $\pm \frac{7}{30}$

5. 400 ± 20

6. $\frac{1}{100}$ $\pm \frac{1}{10}$

Find the cube root of each number.

7. 216 6

8. 8000 20

9. $\frac{27}{125}$ $\frac{3}{5}$

10. $\frac{1}{27}$ $\frac{1}{3}$

11. $\frac{27}{64}$ $\frac{3}{4}$

12. 512 8

Simplify each expression.

13. $\sqrt{16} + \sqrt{25}$ 9

14. $\sqrt[3]{125} + 10$ 15

15. $\sqrt{25} + 10$ 15

16. $8 - \sqrt{64}$ 0

17. $\sqrt[3]{\frac{16}{2}} + 1$ 3

18. $\sqrt{\frac{16}{4}} + \sqrt{4}$ 4

19. The foyer of Ann's house is a square with an area of 36 square feet. What is the length of each side of the foyer?

6

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9. $\sqrt{m} + 11n$ for $m=9$ and $n=-2$

$$\sqrt{9} + (-22) = 3 + (-22) = -19$$

10. $a^2 + bc$ for $a = 5$, $b = 3$, $c = 6$

$$5^2 + (3 \cdot 6) = 25 + 18 = 43$$

11. $-5s \div \frac{3}{5}t$ for $s=12$ and $t=20$

$$-60 \div \frac{3 \cdot 20}{5} = -60 \div \frac{60}{5} = -60 \div 12 = -5$$

12. $-y \cdot (x^2 - 8)$ for $x=2$ and $y=16$

$$-16 \cdot (2^2 - 8) = -16 \cdot (4 - 8) = -16 \cdot -4 = 64$$