1. $\frac{5b - 25}{10}$

$\frac{5(b-5)}{2 \cdot 10}$

$\frac{(b-5)}{2}$

2. $\dfrac{36k^3}{48k^4}$ $\dfrac{25x^5}{375x^7}$ $= \dfrac{1}{3x^2}$

$$\frac{x^2-4}{x+3}\cdot\frac{x^2+7x+12}{x-2}$$

$$\frac{(x+2)(x-2)\cdot(x+3)(x+4)}{(x+3)(x-2)}$$

$$(x+2)(x+4)$$

$$\frac{z+5}{z} \div \frac{3z+15}{4z}$$

$$\frac{z+5}{z} \cdot \frac{4z}{3z+15}$$

$$= \frac{(z+5)4z}{z \cdot 3(z+5)}$$

$$= \frac{4}{3}$$

Algebra Lesson 10-1A Simplifying Radicals

Objective: Today we learn how to simplify radicals using multiplication properties.

Due Next Class: 10-1A p.489 #1-11 odd

Algebra Lesson 10-1A Simplifying Radicals

Simplifying Radicals using Multiplication

Rule:

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$\sqrt{25} = 5$

Ex. $\sqrt{6} \cdot \sqrt{8} = \sqrt{6 \cdot 8} = \sqrt{48}$

$\sqrt{48} = \sqrt{16} \cdot \sqrt{3} = 4\sqrt{3}$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$

Algebra Lesson 10-1A Simplifying Radicals

Simplifying Radicals using Multiplication

Rule:

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

Ex. $\sqrt{125} = \sqrt{25} \cdot \sqrt{5} = 5\sqrt{5}$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$

Simplify Radicals using Multiplication

Rule:

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$\sqrt{50x^2} = \sqrt{25}\,\sqrt{2}\,\sqrt{x^2}$$

$$5x\sqrt{2}$$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$

Simplify Radicals using Multiplication

Rule:

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$\sqrt{72a^5}$$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$

Simplify Radicals using Multiplication

Rule:

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$3\sqrt{2b} \cdot 4\sqrt{10b^3}$$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$

1. $\sqrt{200}$	**2.** $\sqrt{98}$	**3.** $\sqrt{75}$	**4.** $-\sqrt{80}$
5. $-3\sqrt{120}$	**6.** $5\sqrt{320}$	**7.** $\sqrt{28n^2}$	**8.** $\sqrt{108b^4}$
9. $3\sqrt{12x^2}$	**10.** $\sqrt{4n^3}$	**11.** $\sqrt{20a^5}$	**12.** $-\sqrt{48b^4}$
13. $\sqrt{10} \cdot \sqrt{40}$	**14.** $3\sqrt{6} \cdot \sqrt{6}$	**15.** $\sqrt{22} \cdot \sqrt{11}$	**16.** $2\sqrt{18} \cdot 7\sqrt{}$
17. $\sqrt{7} \cdot \sqrt{21}$	**18.** $-3\sqrt{20} \cdot \sqrt{15}$	**19.** $\sqrt{3n} \cdot \sqrt{24n}$	**20.** $2\sqrt{7t} \cdot \sqrt{}$
21. $\sqrt{3x} \cdot \sqrt{51x^3}$	**22.** $5\sqrt{8t} \cdot \sqrt{32t^5}$	**23.** $\sqrt{2a^2} \cdot \sqrt{9a^4}$	**24.** $-2\sqrt{6a^3} \cdot$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$
$12^2 = 144$

$-3\sqrt{120} = -3 \cdot \sqrt{4} \cdot \sqrt{30}$

$= -3 \cdot 2\sqrt{30}$

$= \boxed{-6\sqrt{30}}$