Algebra I
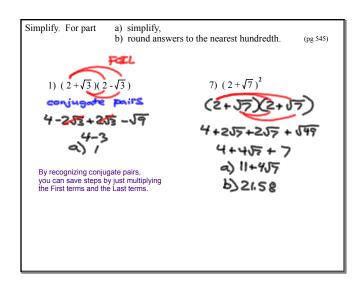
11-9

Binomials Containing Radicals

Simplify. For part   a) simplify,
                      b) round answers to the nearest hundredth.   (pg 545)

FOIL

1) $(2+\sqrt{3})(2-\sqrt{3})$

conjugate pairs

$4-2\sqrt{3}+2\sqrt{3}-\sqrt{9}$

$4-3$

a) 1

By recognizing conjugate pairs, you can save steps by just multiplying the First terms and the Last terms.

7) $(2+\sqrt{7})^2$

$(2+\sqrt{7})(2+\sqrt{7})$

$4+2\sqrt{7}+2\sqrt{7}+\sqrt{49}$

$4+4\sqrt{7}+7$

a) $11+4\sqrt{7}$

b) 21.58

Simplify. For part   a) simplify,
                      b) round answers to the nearest hundredth.

19) $(2\sqrt{5}-6\sqrt{7})(3\sqrt{5}+\sqrt{7})$

$6\sqrt{25}+2\sqrt{35}-18\sqrt{35}-6\sqrt{49}$

$30-16\sqrt{35}-42$

a) $-12-16\sqrt{35}$

b) -106.66

Simplify. For part   a) simplify,
                      b) round answers to the nearest hundredth.

Always use conjugate pairs to get a radical out of the denominator if there is addition or subtraction.

need conjugate pairs!

23) $\dfrac{1}{(1+\sqrt{5})}\cdot\dfrac{(1-\sqrt{5})}{(1-\sqrt{5})}$

$\dfrac{1-\sqrt{5}}{1-\sqrt{25}}$

$\dfrac{1-\sqrt{5}}{1-5}$

a) $\dfrac{1-\sqrt{5}}{-4}$

b) 0.31

29) $\dfrac{(\sqrt{3}-4)}{(\sqrt{7}+2)}\cdot\dfrac{(\sqrt{7}-2)}{(\sqrt{7}-2)}$

$\dfrac{\sqrt{21}-2\sqrt{3}-4\sqrt{7}+8}{\sqrt{49}-4}$

a) $\dfrac{\sqrt{21}-2\sqrt{3}-4\sqrt{7}+8}{3}$

b) -0.49

PG 545

2-34 even

part a + b
for each