5-Minute Check

(over Lesson 11-2)

Transparency 11-3

BE-1B
WEDS. 1-17-07

Simplify each expression.

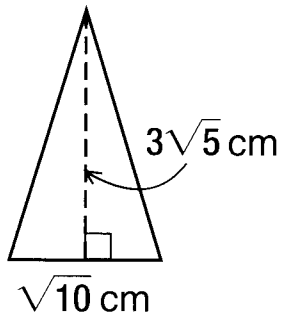
1. $3\sqrt{17} + 11\sqrt{17} - 6\sqrt{17}$
2. $7\sqrt{5} + 8\sqrt{3} - 2\sqrt{5} - 5\sqrt{3}$

Find each product.

3. $(6 - \sqrt{7})(4 + \sqrt{7})$
4. $(3 - \sqrt{6})^2$

5. What is the perimeter of a rectangle whose width is $3\sqrt{2}$ meters and whose length is $2\sqrt{6}$ meters?

6. **Standardized Test Practice** What is the area of the triangle shown?



$A_\Delta = \frac{1}{2}bh$

ANSWERS

1. $8\sqrt{17}$
2. $5\sqrt{5} + 3\sqrt{3}$
3. $17 + 2\sqrt{7}$
4. $15 - 6\sqrt{6}$
5. $6\sqrt{2} + 4\sqrt{6}$ meters
6. $7.5\sqrt{2}$ cm^2

Ch. 11-3 Solving Radical Equations

↓ Equations with a radical

Method: ① Get the radical by itself
② Square both sides

Ex) $\sqrt{5x+1} + 2 = 6$

$-2 \quad -2$

$\sqrt{5x+1} = 4$

$(\sqrt{5x+1})^2 = (4)^2$

$5x+1 = 16$

$5x = 15$

$\boxed{x = 3}$

Ck: $\sqrt{5(3)+1} + 2 \stackrel{?}{=} 6$ ✓

It is ESPECIALLY important TO Check SOLUTIONS TO RADICAL EQUATIONS BECAUSE WHEN you square both sides you MAY create A false or EXTRANEOUS SOLUTION.

Ex) $\sqrt{x+2} = x-4$

$$\left(\sqrt{x+2}\right)^2 = (x-4)^2$$

$$x+2 = (x-4)(x-4)$$

$$x+2 = x^2-4x-4x+16$$

$$x+2 = x^2-8x+16$$

$$-x-2 \qquad -x-2$$

$$0 = x^2-9x+14$$

$$s \Rightarrow -9$$
$$p \Rightarrow 14$$
$$-2 \quad -7$$

$$0 = x^2-2x-7x+14$$

CONTINUED:

$$0 = x^2 - 2x - 7x + 14$$

$$0 = (x^2 - 2x) + (-7x + 14)$$

$$0 = x(x-2) + -7(x-2)$$

$$0 = (x-2)(x-7)$$

$$\therefore x = \{2, 7\}$$

CK $x = 2$

$$\sqrt{(2)+2} \stackrel{?}{=} (2) - 4$$

$$\sqrt{4} \stackrel{?}{=} -2$$

$$2 \neq -2$$

NOT A SOLUTION

CK $x = 7$

$$\sqrt{(7)+2} \stackrel{?}{=} (7) - 4$$

$$\sqrt{9} \stackrel{?}{=} 3$$

$$3 = 3 \checkmark$$

$$\boxed{x = \{7\}}$$

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NOTE: IF $\sqrt{\text{SOMETHING}} = -\text{ANYTHING}$

THE ANSWER IS "NO SOLUTION"

WHY?

LOOK AT # 23, # 28
