

9.1

Tuesday, February 4, 2014 12:04 PM

SIMPLIFY:

$$\begin{aligned} \textcircled{1} \quad (4\sqrt{2})^2 &= 4\sqrt{2} \cdot 4\sqrt{2} \\ &= 16 \cdot \sqrt{4} \\ &= 16 \cdot 2 \\ &= 32 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (7\sqrt{3})^2 \\ &= 7\sqrt{3} \cdot 7\sqrt{3} \\ &= 49 \cdot 3 \\ &= 147 \end{aligned}$$

Solve for x :

$$3. \quad x^2 + 8x = 0$$

$$x(x+8) = 0$$

$$x=0, \quad x+8=0$$

$$x=0, -8$$

$$4. \quad 5x^2 + 82 = 262$$

$$5x^2 = 180$$

$$x^2 = 36$$

$$x = \pm 6$$

$$5. \quad 2x^2 - 7x - 4 = 0 \quad \begin{array}{c} -8 \\ \wedge \end{array}$$

-8 1

$$\underbrace{2x^2 - 8x} + \underbrace{x - 4} = 0$$

$$2x(x-4) + 1(x-4) = 0$$

$$(x-4)(2x+1) = 0$$

$$x = 4, -\frac{1}{2}$$

$$6. \quad 8x^2 - 10x - 3 = 0$$

$$8x^2 - 12x + 2x - 3 = 0$$

-24
^
-12 2

$$4x(2x-3) + 1(2x-3) = 0$$

$$(2x-3)(4x+1) = 0$$

$$x = \frac{3}{2}, -\frac{1}{4}$$

$$\textcircled{7} \quad -3(x-5)^2 + 5 = -103$$

$$-3(x-5)^2 = -108 \quad \rightarrow$$

$$(x-5)^2 = 36$$

$$x-5 = \pm 6$$

$$x = 5 \pm 6 \begin{cases} 11 \\ -1 \end{cases}$$

$$\rightarrow \cancel{-3(x-5)(x-5) + 5 = -103}$$

$$\cancel{-3(x^2 - 10x + 25) + 5 = -103}$$

$$\cancel{-3x^2 + 30x - 75 + 5 = -103}$$

$$\rightarrow \cancel{-3x^2 + 30x + 33 = 0}$$

$$\cancel{-x^2 - 10x - 11 = 0}$$

$$\cancel{(x-11)(x+1) = 0}$$

$$x = 11, -1$$

$$\textcircled{8} \quad 2(x+11)^2 - 7 = 91$$

$$2(x+11)^2 = 98$$

$$(x+11)^2 = 49$$

$$x+11 = \pm 7$$

$$x = -11 \pm 7 \quad \swarrow -4$$

$$x+11 = \pm 1$$
$$x = -11 \pm 7 \begin{cases} -4 \\ -18 \end{cases}$$

9

$$5(x-4)^2 - 9 = 156$$

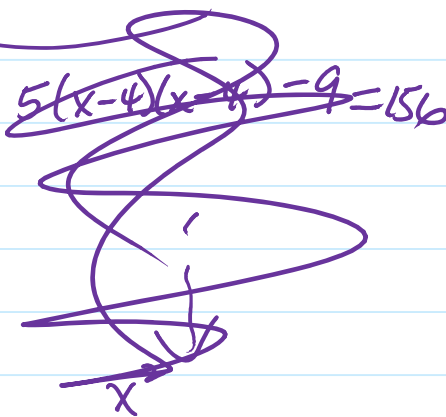
$$5(x-4)^2 = 165$$

$$(x-4)^2 = 33$$

$$x-4 = \pm \sqrt{33}$$

$$x = 4 \pm \sqrt{33}$$

~~$$5(x-4)(x-4) - 9 = 156$$~~



10

$$-4(x-3)^2 + 20 = -300$$

$$-4(x-3)^2 = -320$$

$$(x-3)^2 = 80$$

$$x-3 = \pm\sqrt{80}$$

$$x = 3 \pm \sqrt{80}$$

$$= 3 \pm 4\sqrt{5}$$