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Friday, January 30, 2015 11:03 AM

1 4 9 16 25 36 49 64 81 100 121 144 169 196 225
256 289 324 361 400

SIMPLIFY:

$$1. \sqrt{75} = \sqrt{25 \cdot 3} = 5\sqrt{3}$$

Compare + contrast

Solve $x^2 = 49$

$x = \pm 7$

Simplify $x = \sqrt{49}$
 $= 7$

2. $3\sqrt{245}$

$3\sqrt{49 \cdot 5}$

$= 3 \cdot 7\sqrt{5}$

$= 21\sqrt{5}$

$$3. \quad \sqrt{162} + 2\sqrt{98} - 3\sqrt{50}$$

$$9\sqrt{2} + 14\sqrt{2} - 15\sqrt{2}$$

$$= 8\sqrt{2} \quad 9\star + 14\star - 15\star$$

$$4. \quad (3 - \sqrt{2})(4 + \sqrt{5})$$

$$= 12 + 3\sqrt{5} - 4\sqrt{2} - \sqrt{10}$$

$$\sqrt{98} = \sqrt{49 \cdot 2}$$

$$= \sqrt{49} \cdot \sqrt{2}$$

$$5. \quad (1 - \sqrt{3})(1 + \sqrt{3}) \quad 6. \quad (2 - \sqrt{2})(3 + \sqrt{6}) \quad 7. \quad (4 + \sqrt{5})^2$$

$$= 1 + \sqrt{3} - \sqrt{3} - 3$$

$$= -2$$

$$= 6 + 2\sqrt{6} - 3\sqrt{2} - \sqrt{12}$$

$$= 6 + 2\sqrt{6} - 3\sqrt{2} - 2\sqrt{3}$$

$$= (4 + \sqrt{5})(4 + \sqrt{5})$$

$$= 16 + 8\sqrt{5} + 5$$

$$= 21 + 8\sqrt{5}$$

$$8. \quad \sqrt{3^2 + 4^2} \quad \sqrt{6^2 + 8^2} = 10$$

$$= \sqrt{9 + 16}$$

$$= \sqrt{25}$$

$$= 5$$

9. *Explain*

$$\frac{3}{\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{3\sqrt{6}}{\sqrt{36}} = \frac{3\sqrt{6}}{6} = \frac{\sqrt{6}}{2}$$

Rationalize the denominator

mult. by 1

Simplify:

$$\frac{\sqrt{7}}{\sqrt{14}} \cdot \frac{\sqrt{14}}{\sqrt{14}} = \frac{\sqrt{7} \cdot \sqrt{7} \cdot \sqrt{2}}{14} = \frac{7\sqrt{2}}{14} = \frac{\sqrt{2}}{2}$$

$$\frac{3\sqrt{2}}{\sqrt{50}} \cdot \frac{\sqrt{50}}{\sqrt{50}} = \frac{3\sqrt{2} \cdot \sqrt{2} \cdot \sqrt{25}}{50} = \frac{3 \cdot 2 \cdot 5}{50} = \frac{30}{50}$$

Solve for x:

10. $x^2 + 8x = 0$

11. $5x^2 + 82 = 262$

12. $2x^2 - 7x - 4 = 0$

13. $8x^2 - 10x - 3 = 0$