

3 Rules of Radicals: April 02, 2007

I No Perfect square factors other than 1, inside the radical.

II No fractions inside the radical.

III No radicals in the denominator of a fraction.

2 Properties

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

ii: $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

Quad Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Quad Equation

$$ax^2 + bx + c = 0$$

$$\sqrt{\frac{5}{16}} = \frac{\sqrt{5}}{\sqrt{16}} = \frac{\sqrt{5}}{4}$$

$$\sqrt{\frac{7}{6}} = \frac{\sqrt{7} \cdot \sqrt{6}}{\sqrt{6} \cdot \sqrt{6}} = \frac{\sqrt{42}}{6}$$

$$\sqrt{\frac{6}{24}} = \sqrt{\frac{1}{4}} = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

(21)

$$\frac{\sqrt{45}}{9} = \frac{\sqrt{9} \cdot \sqrt{5}}{9} = \frac{3\sqrt{5}}{9} = \frac{\sqrt{5}}{3}$$

(26)

$$\sqrt{\frac{36}{5}} = \frac{\sqrt{36}}{\sqrt{5}} = \frac{6}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{6\sqrt{5}}{5}$$

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

$$\textcircled{20} \quad \frac{1}{3} \sqrt{12}$$

$$= \frac{1}{3} \sqrt{4} \cdot \sqrt{3}$$

$$= \frac{1}{3} \cdot 2 \cdot \sqrt{3}$$

$$= \frac{2\sqrt{3}}{3}$$

$$\textcircled{22} \quad \sqrt{\frac{5}{20}} = \sqrt{\frac{1}{4}}$$
$$= \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

$$\frac{5}{\sqrt{20}} = \frac{5}{\sqrt{4} \cdot \sqrt{5}}$$

$$= \frac{5}{2\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{5\sqrt{5}}{2 \cdot 5}$$

$$= \frac{\cancel{5}\sqrt{5}}{\cancel{2} \cdot 5} = \frac{\sqrt{5}}{2}$$

$$4x^2 + 3x - 7 = 0$$

$$a = 4$$

$$b = 3$$

$$c = -7$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(3) \pm \sqrt{(3)^2 - 4(4)(-7)}}{2(4)}$$

$$x = \frac{-3 \pm \sqrt{9 + 112}}{8} = \frac{-3 \pm \sqrt{121}}{8} = \frac{-3 \pm 11}{8}$$

$$x = \frac{-3 + 11}{8}$$

$$x = \frac{-3 - 11}{8}$$

$$= \frac{8}{8}$$

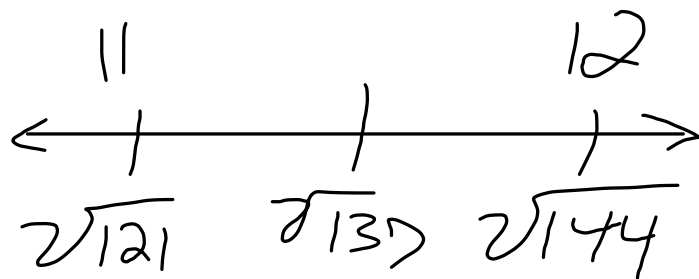
$$= \frac{-14}{8}$$

$$x = 1$$

or

$$= \frac{-7}{4}$$

$$\sqrt{135}$$



O.T.L.

Py 539: Quiz 2

13-18 all ☺