

Warm-up:

1) Simplify: $\frac{10 + 6\sqrt{5}}{6\sqrt{5}} = \frac{10}{6\sqrt{5}} + \frac{6\sqrt{5}}{6\sqrt{5}} = \frac{10\sqrt{5}}{30} + 1$

2) Write an equation for the line that passes through the point $(-3, 2)$ that is perpendicular to $y = \frac{1}{4}x + 5$

$m_1 = \frac{1}{4}$ $m_2 = -4$
 $y - y_1 = m_2(x - x_1)$
 $y - 2 = -4(x - (-3))$
 $y - 2 = -4(x + 3)$
 $y - 2 = -4x - 12$
 $y = -4x - 10$

Oct 29-7:55 AM

Obj: Solve radical equations.

*Check for extraneous solutions

$(\sqrt[n]{a})^n = a^{\frac{1}{n} \cdot n} = a^1 = a$
 $(\sqrt[n]{a})^3 = a^{\frac{1}{n} \cdot 3} = a^{\frac{3}{n}}$

$(\sqrt{x})^2 = 4^2$
 $x = 16$

Apr 24-9:55 AM

1) $\sqrt{8x - 5} - 1 = 2$

$\sqrt{8x - 5} = 3$ Square Both Sides

$(\sqrt{8x - 5})^2 = (3)^2$

$8x - 5 = 9$

$8x = 14$

$x = \frac{14}{8} = 1\frac{7}{4} = 1.75$

Apr 24-9:56 AM

2) $\sqrt[3]{x - 7} = 4$

May see the problem as:

$(x - 7)^{1/3} = 4$

$= (\sqrt[3]{x - 7})^3 = (4)^3$

$x - 7 = 4 \times 4 \times 4 = 64$

$x - 7 = 64$

$x = 71$

Apr 24-10:01 AM

3) $\sqrt[4]{3x - 2} = 0$

$(3x)^{1/4} - 2 = 0$

$(\sqrt[4]{3x - 2})^4 = (0)^4 = 0$

$3x = 2$

$x = \frac{2}{3} = 0.66$

Apr 24-10:04 AM

4) $\sqrt{3n - 1} = \sqrt{4 - 2n}$

$(\sqrt{3n - 1})^2 = (\sqrt{4 - 2n})^2$

$3n - 1 = 4 - 2n$

$5n - 1 = 4$

$5n = 5$
 $n = 1$

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

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

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

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

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

$$0 = x^2 - 6x + 8$$

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

$$x-2=0 \quad | \quad x-4=0$$

$$x=2 \quad | \quad x=4$$

Apr 24-10:07 AM

Attachments



U5 - D7 - Dividing Radicals and Using rational exponents APPLIED FALL15.notebook