

June 9, 2015
 Prep Handout
 #25 $\frac{x}{4} - \frac{1}{2} = \frac{x+6}{2}$ *gcd: 4*

$$\frac{x}{4} - \frac{1}{2} = \frac{x+6}{2}$$

$$\frac{x}{4} - \frac{2}{4} = \frac{2x+12}{4}$$

ch $-14 = x$

$$\frac{-14}{4} - \frac{1}{2} = \frac{-14+6}{2}$$

$$-\frac{7}{2} - \frac{1}{2} = \frac{-8}{2}$$

$$\frac{-7-1}{2} = -4$$

$$-\frac{8}{2} = -4$$

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#26)

$$\frac{\frac{1}{1} + \frac{3}{7}}{\frac{2}{1} + \frac{4}{7}} = \frac{\frac{7+3}{7}}{\frac{14+4}{7}}$$

$$= \frac{\frac{10}{7}}{\frac{18}{7}}$$

$$= \frac{10}{18} = \frac{5}{9}$$

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Quiz #2 *gcd: 5*

#1) $\frac{6(y-2)}{5} = -y + \frac{4}{5}$

$$\frac{6(y-2)}{5} = -y + \frac{4}{5}$$

$$6(y-2) = -5y + 4$$

$$6y - 12 = -5y + 4$$

$$11y = 16$$

$$y = \frac{16}{11}$$

$$\frac{6(\frac{16}{11} - 2)}{5} = -(\frac{16}{11}) + \frac{4}{5}$$

$$\frac{6(\frac{18-22}{11})}{5} = \frac{-90+20}{55}$$

$$\frac{6(-\frac{4}{11})}{5} = \frac{-24}{55}$$

$$-\frac{24}{55} = \frac{-24}{55}$$

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#2) $x^2 - 7x - 18 = 0$

$$(x-9)(x+2) = 0$$

① $x-9=0$
 $x=9$

② $x+2=0$
 $x=-2$

ch

$$(9)^2 - 7(9) - 18 = 0$$

$$81 - 63 - 18 = 0$$

$$18 - 18 = 0 \checkmark$$

$$(-2)^2 - 7(-2) - 18 = 0$$

$$4 + 14 - 18 = 0$$

$$18 - 18 = 0 \checkmark$$

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#13)

$$\frac{3x+6}{12} \cdot \frac{5x+10}{4}$$

$$\frac{3(x+2)}{3} \cdot \frac{5(x+2)}{4}$$

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

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

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Let $x = 6^{1/2}$

$$(x)^2 = (6^{1/2})^2$$

$$\sqrt{x^2} = \sqrt{6}$$

$$x = \sqrt{6}$$

$x = x$ true

$$6^{1/2} = \sqrt{6}$$

$$\sqrt[3]{10} = 10^{(1/3)}$$

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$$\begin{aligned}
 f.) \quad \left(\frac{8}{27}\right)^{-\frac{2}{3}} &= \frac{8^{-\frac{2}{3}}}{27^{-\frac{2}{3}}} \\
 &= \frac{1}{27^{\frac{2}{3}}} \\
 &= \frac{1}{8^{\frac{2}{3}}} \\
 &= \frac{1}{\sqrt[3]{27^2}} = \frac{1}{(\sqrt[3]{27})^2} \\
 &= \frac{1}{\sqrt[3]{8^2}} = \frac{1}{(\sqrt[3]{8})^2} \\
 &= \frac{1}{(2)^2} = \frac{1}{4}
 \end{aligned}$$

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8.1 #1 m 3
#1, #3, #6, #9

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$$\begin{aligned}
 g.) \quad \frac{(x^{-\frac{2}{3}} \cdot x^{\frac{1}{3}})^{-\frac{7}{3}}}{x^{\frac{1}{3}}} &= \frac{x^{-\frac{2}{3} + \frac{1}{3}}^{-\frac{7}{3}}}{x^{\frac{1}{3}}} \\
 &= \frac{x^{-\frac{1}{3} \cdot -\frac{7}{3}}}{x^{\frac{1}{3}}} = \frac{x^{\frac{7}{9}}}{x^{\frac{1}{3}}} \\
 &= x^{\frac{7}{9} - \frac{3}{9}} = x^{\frac{4}{9}} \\
 &= x^{\frac{4}{9}}
 \end{aligned}$$

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$$\begin{aligned}
 \frac{5 \cdot 6(y-2)}{5} &= \frac{30(y-2)}{5} \\
 \frac{6(y-2)}{6y-12} &= \frac{30y-60}{5} \\
 &= \frac{30y}{5} - \frac{60}{5} \\
 &= 6y - 12
 \end{aligned}$$

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