

January 18, 2017
 * Math Jam Tuesdays
 starts this week
 12:00 - 2:00
 #320

Jan 18-9:55 AM

1.) $3[2-5(x+1)] = -4(2x+1)$
 $3[2-5x-5] = -8x-4$
 $3[-3-5x] = -8x-4$
 $-9-15x = -8x-4$
 $\frac{-5}{7} = \frac{7x}{7}$
 $\boxed{-\frac{5}{7} = x}$

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2.) $12\left(\frac{x+2}{12} = \frac{5}{4}\right)$
 $x+2 = 15$
 $x = 13$

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1.4 Solving Quadratics
 $ax^2+bx+c=0$
 2nd Degree Polynomial
 Trinomial
 Methods
 ① Factor (if its factorable)
 * If the Discriminate is a Perfect Square then factorable
 ② Square Root Property
 $\sqrt{x^2} = \sqrt{k}$
 $x = \pm\sqrt{k}$
 ③ $\sqrt{x^2} = \sqrt{4}$
 $x = \pm\sqrt{4}$
 $x = \pm 2$
 ④ $\sqrt{x^2} = \sqrt{5}$
 $x = \pm\sqrt{5}$
 ⑤ $\sqrt{(x-8)^2} = \sqrt{12}$
 $x-8 = \pm\sqrt{12}$
 $\left\{ \begin{array}{l} = \pm\sqrt{4 \cdot 3} \\ = \pm\sqrt{4} \cdot \sqrt{3} \\ = \pm 2\sqrt{3} \end{array} \right.$
 $x = 8 \pm 2\sqrt{3}$

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Properties of Radicals
 ① $\sqrt[n]{a \cdot b} = \sqrt[n]{a} \cdot \sqrt[n]{b}$
 ② $\sqrt[n]{\frac{a}{b}} = \frac{\sqrt[n]{a}}{\sqrt[n]{b}}$

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Discriminate
 $b^2 - 4ac$

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③ Completing the square

$$x^2 - 6x + 1 = 0$$

① $x^2 - 6x = -1$

② $x^2 - 6x + 9 = -1 + 9$

$$(x-3)^2 = 8$$

$(-3)^2 = 9$

③ $\sqrt{(x-3)^2} = \sqrt{8}$

$$x-3 = \pm \sqrt{8} = \pm \sqrt{4 \cdot 2}$$
$$= \pm 2\sqrt{2}$$
$$x = 3 \pm 2\sqrt{2}$$

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