

Thu 10-25-18

webassign sec. 1.2

$$\textcircled{5} \quad 3(x+8) - 7 = 3x + 17$$

$$3x + 24 - 7 = 3x + 17$$

$$3x + 17 = 3x + 17$$

$$0 = 0$$

Identity

$$\textcircled{7} \quad 8(x+9) - 3(2x+2) = 2(x+35)$$

$$\underline{8x} + \underline{72} - \underline{6x} - \underline{6} = 2x + 70$$

$$2x + 66 = 2x + 70$$

$$2x - 2x = 70 - 66$$

$$0 \neq 4$$

no solution

$$\textcircled{13} \quad \frac{4}{3x+1} - \frac{27x}{3x-1} = 9$$

$$\frac{\cancel{(3x+1)}\cancel{(3x-1)}}{1} \cdot \frac{4}{\cancel{(3x+1)}} - \frac{\cancel{(3x+1)}\cancel{(3x-1)}}{1} \cdot \frac{27x}{\cancel{3x-1}} = 9$$

$$\frac{4(3x-1) - 27x(3x+1)}{(3x+1)(3x-1)} = 9$$

$$\frac{12x - 4 - 81x^2 - 27x}{(3x+1)(3x-1)} = \frac{9}{1}$$

$$\frac{-15x - 4 - 81x^2}{9x^2 - 3x + 3x - 1} = \frac{9}{1}$$

$$\frac{-15x - 4 - 81x^2}{9x^2 - 1} = \frac{9}{1}$$

$$9(9x^2 - 1) = -15x - 4 - 81x^2$$

$$\cancel{81x^2} + 9 = -15x - 4 - \cancel{81x^2}$$

$$+9 = -15x - 4$$

$$15x = 9 - 4$$

$$15x = -5$$

$$x = \frac{-5}{15}$$

$$x = -1/3$$

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Pg 2

$$\textcircled{14} \frac{1}{x-3} + \frac{8}{x+8} = \frac{9}{x^2+5x-24}$$

$$\frac{\cancel{(x-3)}(x+8)}{1} \cdot \frac{1}{\cancel{(x-3)}} + \frac{\cancel{(x-3)}(x+8)}{1} \cdot \frac{8}{\cancel{(x+8)}} = \frac{9}{(x+8)(x-3)}$$

$$\frac{(x+8)1 + 8(x-3)}{(x-3)(x+8)} = \frac{9}{(x+8)(x-3)}$$

$$\frac{x+8+8x-24}{(x-3)(x+8)} = \frac{9}{(x+8)(x-3)}$$

$$\frac{9x-16}{(x-3)(x+8)} = \frac{9}{(x+8)(x-3)}$$

$$\frac{9(x-3)(x+8)}{(x-3)(x+8)} = \frac{(9x-16)(x+8)(x-3)}{(x+8)(x-3)}$$

$$9 \frac{\cancel{(x-3)}(x+8)}{\cancel{(x-3)}(x+8)} = \frac{9x-16}{9}$$

$$9 \cdot 1 = 9x-16$$

$$9 = 9x-16$$

$$9+16=9x$$

$$25=9x$$

$$\textcircled{25/9 = x}$$

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Pg 3

$$(19) \frac{3}{7.403} - \frac{12}{x} = 15$$

$$\frac{3(x) - 12(7.403)}{7.403x} = 15$$

$$\frac{3x - 88.836}{7.403x} = \frac{15}{1}$$

$$1(3x - 88.836) = 15(7.403x)$$

$$3x - 88.836 = 111.045x$$

$$-88.836 = 111.045x - 3x$$

$$-88.836 = 108.045x$$

$$x = \frac{-88.836}{108.045}$$

$$x = -0.822$$

$$(20) 2 - 3(x - 2b) = ax + 5$$

$$2 - 3x + 6b = ax + 5$$

$$2 + 6b - 5 = ax + 3x$$

$$6b - 3 = ax + 3x$$

$$6b - 3 = x(a + 3)$$

$$\boxed{\frac{6b - 3}{(a + 3)}} = x$$