

Do The Math
Week 3

Pg 80

②

$$y + 4x = 2$$

$$y = 2 - 4x$$

$$x = \frac{2 - y}{4}$$

$$x = 0, 2$$

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

$$y = 2$$

$$y = 2 - 4(2)$$

$$y = 2 - 8$$

$$y = -6$$

$$y = 1, 9$$

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

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

$$x = \frac{2 - 9}{4}$$

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

③

$$\frac{x+1}{y} = 2$$

$$\frac{x+1}{2} = y$$

$$x = 2y - 1$$

$$x = 0, 2$$

$$y = \frac{1}{2}$$

$$y = \frac{2+1}{2}$$

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

$$y = 1, 9$$

$$x = 2(1) - 1$$

$$x = 1$$

$$x = 2(9) - 1$$

$$x = 17$$

④

$$\frac{x+y}{13} = x$$

$$(13)x + y = (13)x$$

13

$$x + y = 13x$$

$$y = 13x - x$$

$$y = 12x$$

$$\frac{y}{12} = x$$

$$x = 0, 2$$

$$y = 12(0)$$

$$y = 0$$

$$y = 24$$

$$y = 1, 9$$

$$x = \frac{1}{12}$$

$$x = \frac{9}{12}$$

$$x = \frac{3}{4}$$

Pg 98

$$\textcircled{2} \quad ax + bx = c$$

$$x(a+b) = c$$

$$\boxed{x = \frac{c}{a+b}}$$

$$\textcircled{3} \quad x(y+z+3) = -7(x+2)$$

$$xy + xz + 3x = -7x - 14$$

$$xy + xz - 4x = -14$$

$$x(y+z-4) = -14$$

$$\boxed{x = \frac{-14}{y+z-4}}$$

$$\textcircled{4} \quad \frac{d(c-2)}{(2-c)} + dx = 5$$

$$\frac{d}{-1} \times \frac{(c-2)}{(-c+2)} + dx = 5$$

$$\frac{d}{-1} \times \frac{\cancel{(c-2)}}{\cancel{(c-2)}} + dx = 5$$

$$\frac{d}{-1} + dx = 5$$

$$\boxed{x = \frac{d+5}{d}}$$

$$\textcircled{5} \quad \frac{\frac{x}{2} + \frac{x}{6}}{\frac{2}{3}} = 2x - 1$$

$$\frac{4x}{2}$$

$$\frac{3}{3} \cdot \frac{x}{2} + \frac{x}{6} = \frac{3}{3} \cdot \frac{2x-1}{1}$$

$$\frac{3x}{6} + \frac{x}{6}$$

$$\frac{4x}{6} \cdot \frac{3}{2} = \frac{6x-3}{3}$$

Pg. 97

② $|a-3|=6$

$$a-3=6$$

$$a=6+3$$

$$a=9$$

$$-a=-6+3$$

$$a=-3$$



③ $|a-3|=6$

$$-3-6=a$$

$$-9=a$$

$$-a=6+3$$

$$-a=3$$



④ $|b-2|=1$

2

$$b-2=2$$

$$\boxed{\begin{matrix} b=4 \\ 0=-b \end{matrix}}$$



⑤ $3|h+5|-1=8$

$$3h+15-1=8$$

$$3h=8-15+1$$

$$h=\frac{-6}{3}$$

$$h=-2$$



$$3|h+5|-1=-8$$

$$3h+15=-9$$

?

Pg. 105

② $n \leq 3$ or $n > 6$ Disjunction



③ $n \leq 3$ and $n > 6$



④ $-5 < 2y + 3 \leq 1$ $y > -4$ $y \leq -1$
 $-8 < -3 + 2y + 3 \leq -3 + 1$ conjunction
 $-8 < 2y \leq -2$
 $-\frac{8}{2} < y \leq \frac{-2}{2} = -1$



⑤ $-2 \leq w - 7 < 1$
 $-2 + 7 \leq w - 7 + 7 < 1 + 7$ conjunction
 $5 \leq w < 8$



Pg. 111

$$\textcircled{2} \quad |y-1| \geq 2$$

$$y-1 \geq 2$$

$$y \geq 2+1$$

$$\boxed{y \geq 3}$$

$$\text{iii) } y \leq -2+1$$

$$\boxed{y \leq -1}$$

disjunction



$$\textcircled{3} \quad |a-3| < 2$$

$$a < 2+3$$

$$a < 5$$

$$+3-2 < a$$

$$1 < a$$

conjunction



$$\textcircled{4} \quad -|x| \geq -1$$

$$(-1) \cdot (-|x|) \geq (-1) \cdot (-1)$$

$$|x| \geq 1$$

$$x \geq 1$$

$$-1 \leq x$$



$$\textcircled{5} \quad 2|2n+1|-1 > 5$$

$$+1+2|2n+1|+1-1 > 5+1$$

$$3|2n+1| > 6$$

$$2n+1 > 6-3$$

$$2n > 3-1$$

$$n > \frac{2}{2}$$

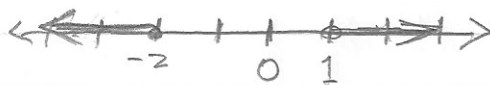
$$\boxed{n > 1}$$

$$n > 3-1$$

$$n > \frac{4}{2}$$

$$\boxed{n > 2}$$

disjunction



$$\textcircled{6} \quad -4|h-3|+1 > 13$$

$$-1-4|h-3|-1+1 > 13-1$$

$$-5|h-3| > 12$$

$$h > 12+3+5$$

$$\boxed{h > 20}$$

$$h > -12+3+5$$

$$\boxed{h < -4}$$

~~no~~