

4.3 (x, y, z)

29. $(a, a-5, \frac{2}{3}a+1)$

$a=1$ $(1, -4, 1\frac{2}{3})$

$a=3$ $(3, -2, 3)$

$$31. \text{ I=Prt} \quad \textcircled{1} \quad x + y + z = 775,000$$

$$\textcircled{2} \quad .08x + .09y + .10z = 67,500$$

$$x = 4z$$

$$4z + y + z = 775,000$$

$$.08(4z) + .09y + .10z = 67,500$$

$$y + 5z = 775,000$$

$$.09y + .42z = 67,500$$

$$-.09y + -.45z = -69,750$$

$$.09y + .42z = 67,500$$

$$-.03z = -2,250$$

$$z = 75,000$$

$$x = 4z$$

$$x = 4(75,000)$$

$$x = 300,000$$

$$y = 400,000$$

\$ 300,000 at 8%

\$ 400,000 at 9%

\$ 75,000 at 10%

25.

$$2x + 3y + 3z = 7$$

$$4x + 18y + 15z = 44$$

$$-4x - 6y - 6z = -14$$

$$4x + 18y + 15z = 44$$

$$12y + 9z = 30 \quad \div 3$$

$$4y + 3z = 10$$

$$z = a \quad 4y + 3a = 10 \quad \text{Solve for } y$$

$$4y = -3a + 10$$

$$y = -\frac{3}{4}a + \frac{5}{2}$$

$$2x + 3\left(-\frac{3}{4}a + \frac{5}{2}\right) + 3a = 7$$

$$2x + -\frac{9}{4}a + \frac{15}{2} + 3a = 7$$

$$2x = -\frac{3}{4}a - \frac{1}{2}$$

$$x = -\frac{3}{8}a - \frac{1}{4}$$

$$\left(-\frac{3}{8}a - \frac{1}{4}, -\frac{3}{4}a + \frac{5}{2}, a\right)$$

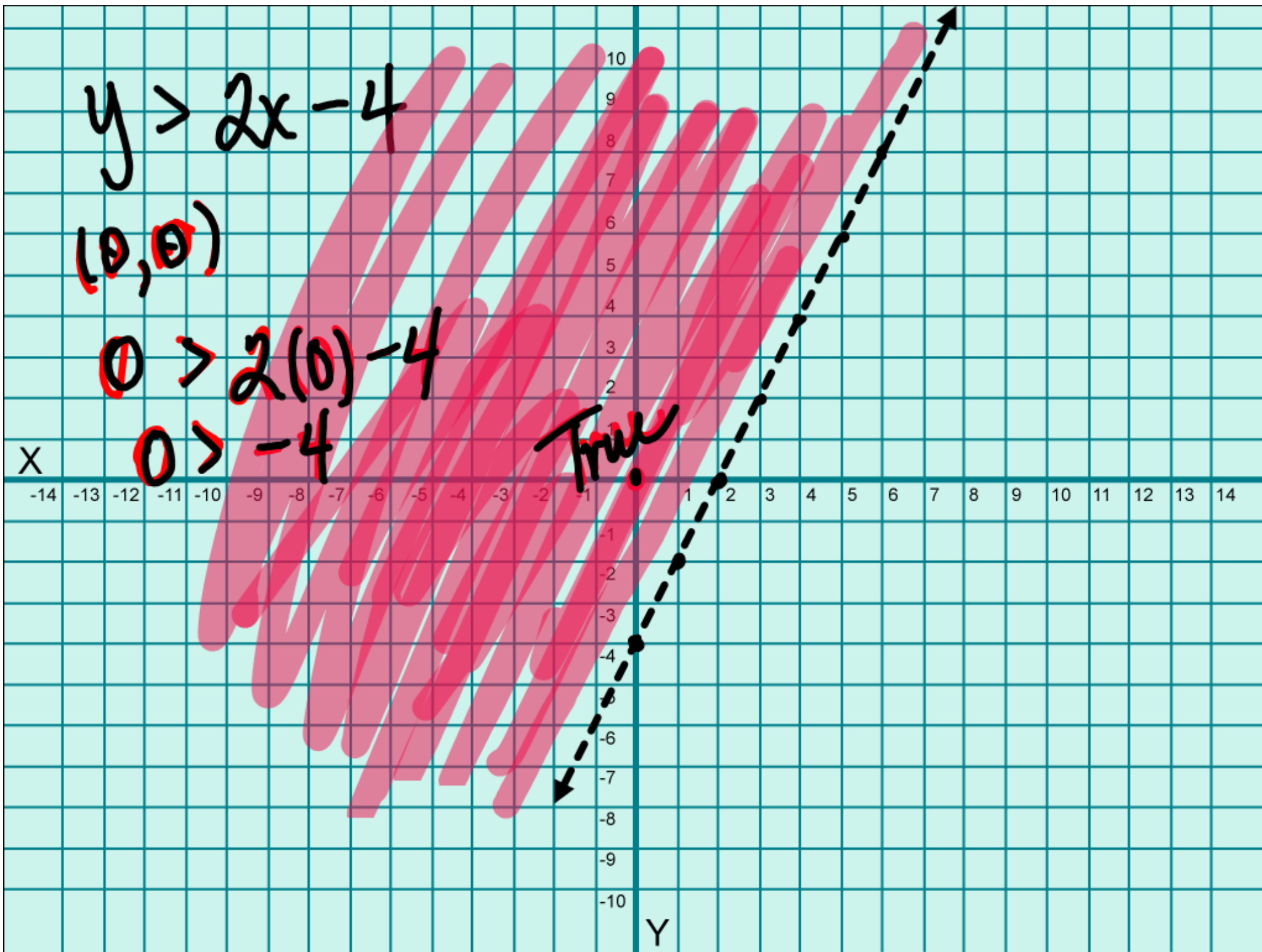
4.4. Systems of Inequalities

$$y > 2x - 4$$

1) Graph equation
 $y = 2x - 4$

$<$ $>$ Dashed \leq \geq Solid

2) Test an ordered pair
in the inequality



$$25. -3x + 2y < 6$$

$$-3x + 2y = 6$$

$$2y = 3x + 6$$

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

$$(0,0) \quad -3(0) + 2(0) < 6$$

$$0 < 6$$

$$x + 4y > -2$$

$$x + 4y = -2$$

$$4y = -x - 2$$

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

$$(0,0) \quad 0 + 4(0) > -2$$

$$0 > -2$$

$$2x + y < 3$$

$$2x + y = 3$$

$$y = -2x + 3$$

$$(0,0) \quad 2(0) + 0 < 3$$

$$0 < 3$$

