1. Lisa went for a long walk. For the first hour she walked 10 miles per hour. For the next three hours she walked only 6 miles per hour. Fill-in the following piece-wise function:
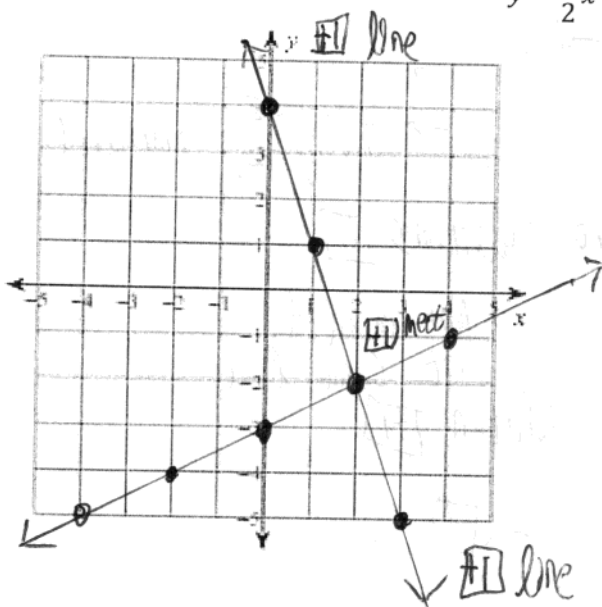
(5)

$$d(t) = \begin{cases} 10t \;[+1], \text{ when } 0 \le t \le 1 \;[+1]\text{ or }\le \;[+1] \\ 6(t-1) + 10, \text{ when } 1 < t \le 4 \end{cases}$$

[+1]   [+1]

2. Solve the following system of equations by graphing on the coordinate plane below.

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

(5)

[+1] line

[+1] next

[+1] line

[+1] Answer correct

~~(2,4)~~ (2, -2)

[+1] format

3. Solve the following system of equation by the substitution method.

$$y = 2x + 6$$
$$3x + y = 16$$

[+1] Substitution used

$3X + (2X+6) = 16$

$3X + 2X + 6 = 16$

    $-6 \quad -6$

$\dfrac{5X}{5} = \dfrac{10}{5}$

$X = 2$

[+1] Subbed x=2 into equation

$y = 2(2) + 6$

$y = 4 + 6$

$y = 10$

[+1] Answer correct

(2, 10)

[+1] format

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4. Solve the following system of equations using the Elimination method.
$$3x - 2y = -21$$
$$2x + 5y = 5$$

[H] Correct Setup

$(3x - 2y = -21) \cdot -2$
$(2x + 5y = 5) \cdot 3$

1)

↓

$-6x + 4y = 42$
$6x + 15y = 15$
─────────
$19y = 57$

→ $\dfrac{19y}{19} = \dfrac{57}{19}$

$y = 3$ [H] Subbed back in

$3x - 2(3) = -21$
$3x - 6 = -21$
$+6 \quad +6$
$3x = -15$

→ $\dfrac{3x}{3} = \dfrac{-15}{3}$

$x = -5$

$(-5, 3)$ [H] Answer Correct

[H] Format

5. Classify the following system of equations. How many solutions does it have?

③

[H] Independent   [H] Inconsistent

$\dfrac{1}{2} \cdot (4x + 2y = -4)$ and $2x + y = 2$

→ $2x + y = 2$
$2x + y = -2$ Parallel

zero Solutions [H]

6. Classify the following system of equations. How many solutions does it have?

③

[H] Independent   [H] Consistent

$2x + y = 2$ Not parallel
$x + y = 3$ Not Same line

one Solution [H]

7. Which of the following is the graph of $y \geq -2x + 1$?

①

A

B [H]

C

D