Chapter 8 (part 2) Bringing It All Together
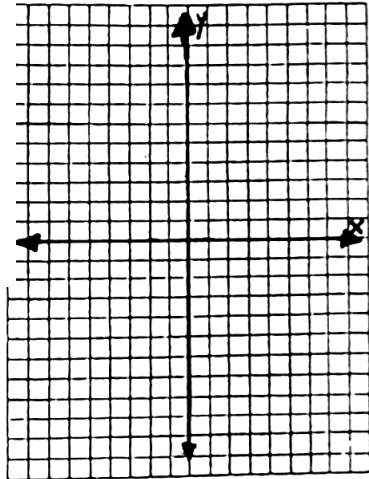# Linear Equations

Graph the equation by plotting the ordered pairs. (4 points)
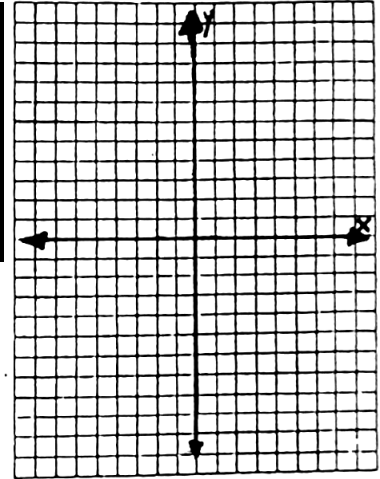
1) $y = 3x + 2$

x	y
-1	
0	
1	

2) $2y = -3x - 2$

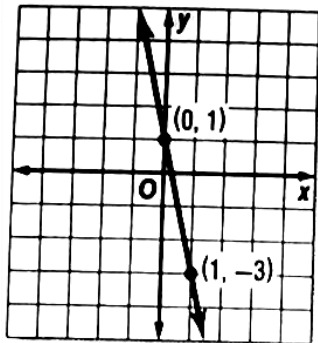| x	y
-2	
0	
2	

Find the slope of the line that passes through the pair of points. (1 point)

3) $A(12, 5)$ $B(-4, 1)$

4) $R(12, -2)$ $S(6, 2)$

Using the given graph, find the slope of the line. (1 point)

5)

(0, 1)
(1, −3)

6)

(3, −1)
(0, −3)

State the slope and the y-intercept of the equation. (2 points)

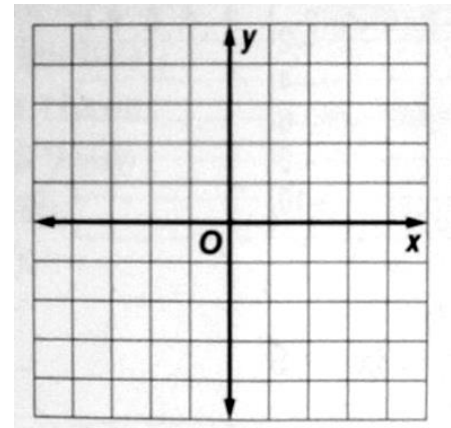7) $-5x + 6y = -48$ _____ ; _____
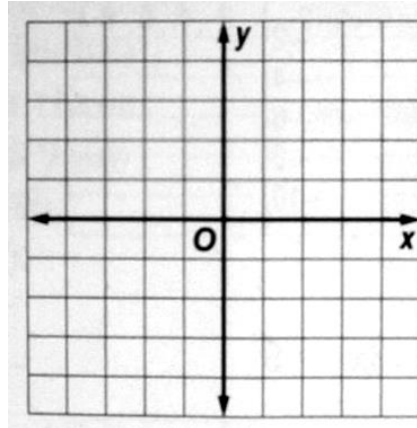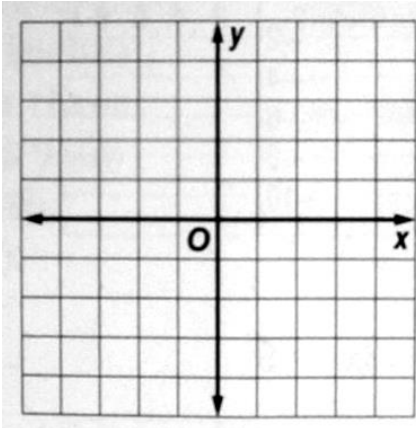
OVER⟶
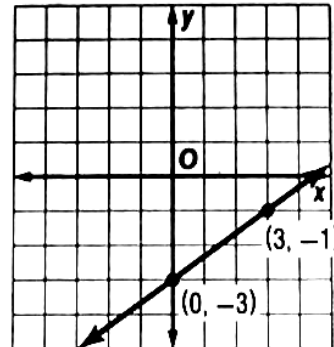
Name _____ Date _____ Pd_____

Graph using the slope and _y_-intercept. (2 points)
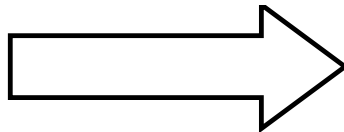
8) $y = \frac{1}{4}x - 4$ 9) $y = -2x + 3$ 10) $-3x + 4y = -4$

Give the slope of the line by using the data in the table. (1 point)
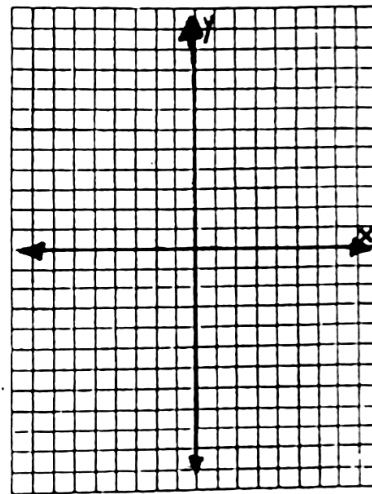
11a)

x	y
-1	-6
0	-8
1	-10
2	-12

Graph the points on the represented coordinate plane. (1 point)
(Connect the points to form a line.)

11b)

11c) What does the point **(0, -8)** represent? _____ (1 point)

Write an equation of the line in <u>point-slope</u> form that passes through each set of points: (2 points)

12) (9, -1) and (6, -2) _____

13) (-5, 10) and (3, -6) _____
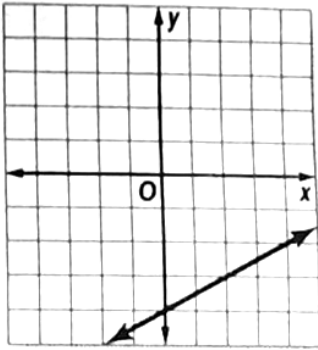
14) (5, 0) and (2, -3) _____

OVER⟶

Name _____ Date _____ Pd_____

Write an equation for the line in <u>slope-intercept</u> form when:
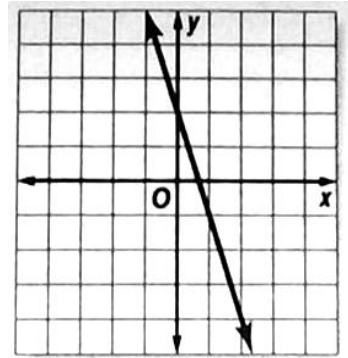
15) the slope is $-\frac{1}{4}$ and the y-intercept is 2 _____ (1 point)

Write an equation for each line in <u>slope-intercept</u> form: (1 point)

16) _____

17) _____

Solve each system of equations by substitution: (2 points)

18) _____

$$x - y = 8$$
$$y = -1$$

19) _____

$$4x - y = 16$$
$$y = 2x$$

20) _____

$$-3y - 3x = -9$$
$$x + y = 3$$

Solve each system of equations by elimination: (2 points)

21) _____

$$-6x + y = 12$$
$$-16x - y = -10$$
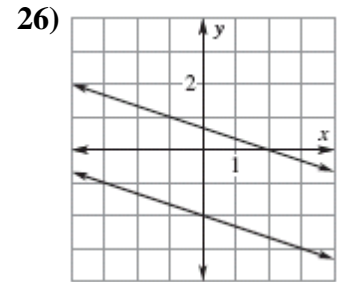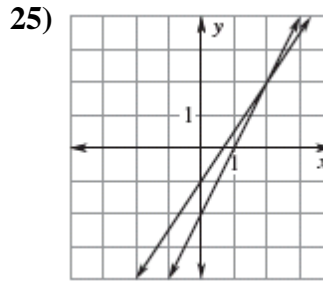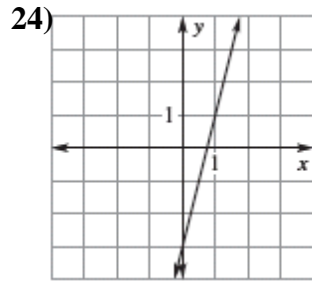
22) _____

$$-x + 2y = 7$$
$$5x - 3y = -21$$

23) _____

$$3x - 2y = 8$$
$$-6x + 4y = 9$$

Name _____ Date _____ Pd_____

For 24-26, the graph of a linear system is given. State the solution of the system. State whether the system is inconsistent, consistent and dependent, or consistent and independent.
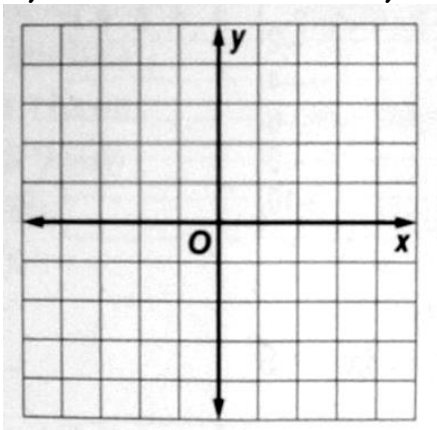
24)

25)

26)

Graph the system of equations. (2 points)
State whether the system is parallel, intersecting, or coincides. (1 point)
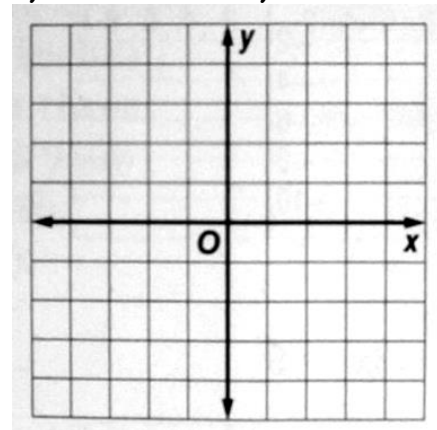**Give the solution for the system.** (1 point)

27) _____

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

28) _____

$y = x + 3 \; ; \; y = x - 3$

Set up and solve the following systems of equations. Choose your choice of method

29) In one day, a movie theater collected $4600 from 800 people. The price of admission is $7 for an adult and $5 for a child. **How many adults and how many children were admitted to the movie theater that day?**

30) An adult ticket for a school play costs $3 more than a children's ticket. When 552 adult and 397 children's tickets were sold, the total revenue was $8,299. **Find the cost of an adult pass.**
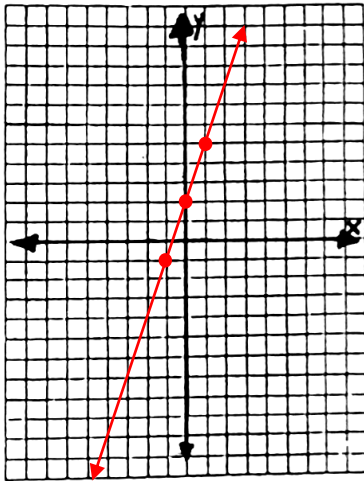
FINALLY DONE

Chapter 8 (part 2) BIT Answer Key

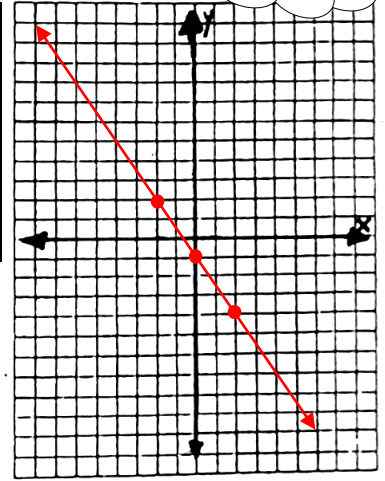**Graph the equation by plotting the ordered pairs.** (4 points)

1) $y = 3x + 2$

x	y
-1	**-1**
0	**2**
1	**5**

2) $2y = -3x - 2$ ○ ○ ○ $y = -\frac{3}{2}x - 1$

x	y
-2	**2**
0	**-1**
2	**-4**

Find the slope of the line that passes through the pair of points. (1 point)
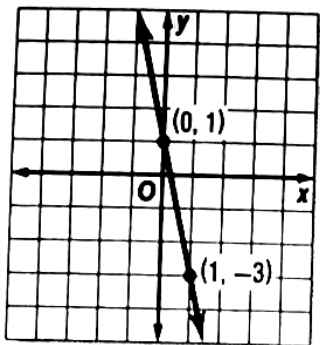
3) $A\,(12, 5)$ $B\,(-4, 1)$

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

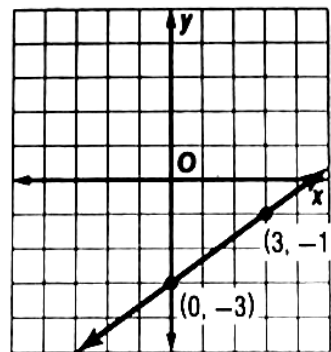4) $R\,(12, -2)$ $S\,(6, 2)$ ○ ○ ○ $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

$$m = -\frac{2}{3}$$

Using the given graph, find the slope of the line. (1 point)

5)

(0, 1)

(1, −3)

$$m = -4$$

6)

(3, −1)

(0, −3)

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

State the slope and the y-intercept of the equation. (2 points)

7) $-5x + 6y = -48$ $m = \dfrac{5}{6}$ $b = -8$

$$\begin{array}{r} +5x \qquad\quad +5x \\ \hline \frac{6y}{6} = \frac{5x}{6} - \frac{48}{6} \end{array} \implies y = \frac{5}{6}x - 8$$
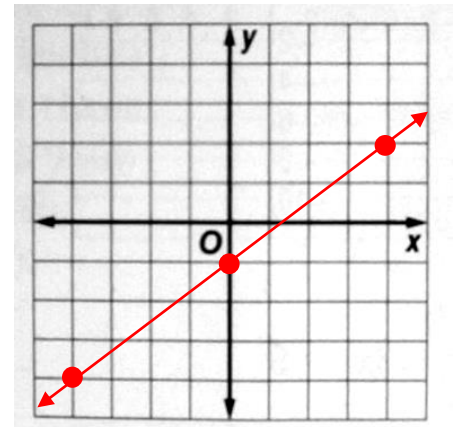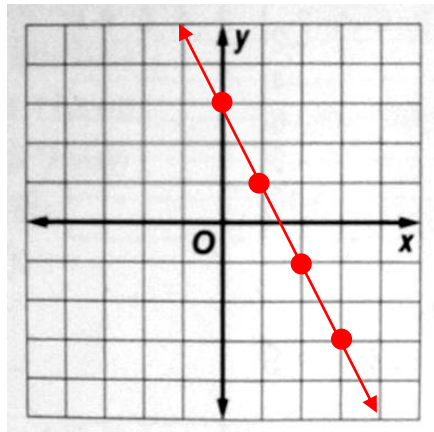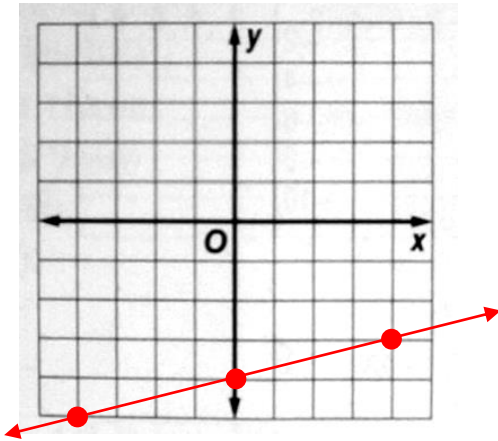
Name _____ Date _____ Pd_____ $y = \frac{3}{4}x - 1$

Graph using the slope and *y*-intercept. (2 points)

8) $y = \frac{1}{4}x - 4$

9) $y = -2x + 3$

10) $-3x + 4y = -4$

Give the slope of the line by using the data in the table. (1 point)

11a)

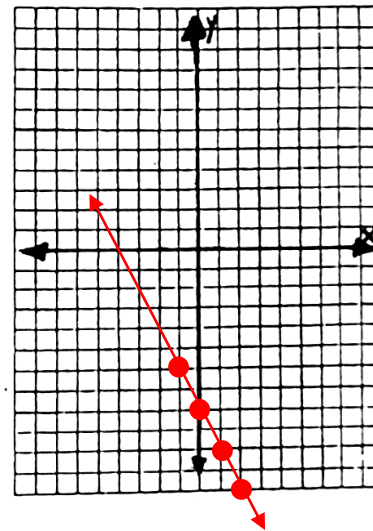| x	y
-1	-6
0	-8
1	-10
2	-12
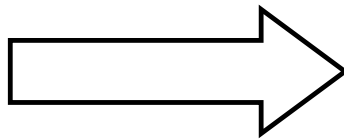
$m = -2$

Graph the points on the represented coordinate plane. (1 point)
(Connect the points to form a line.)

11b)

11c) What does the point **(0, -8)** represent? **y-intercept** (1 point)

Write an equation of the line in <u>point-slope</u> form that passes through each set of points: (2 points)

12) $(9, -1)$ and $(6, -2)$ $y + 1 = \frac{1}{3}(x - 9)$ or $y + 2 = \frac{1}{3}(x - 6)$

13) $(-5, 10)$ and $(3, -6)$ $y - 10 = -2(x + 5)$ or $y + 6 = -2(x - 3)$

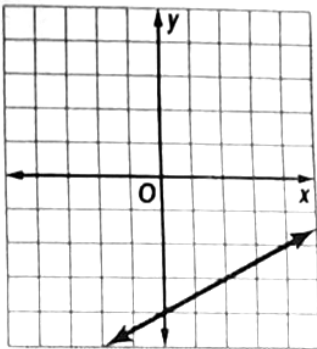14) $(5, 0)$ and $(2, -3)$ $y = x - 5$ or $y + 3 = x - 2$

Name _____ Date _____ Pd_____

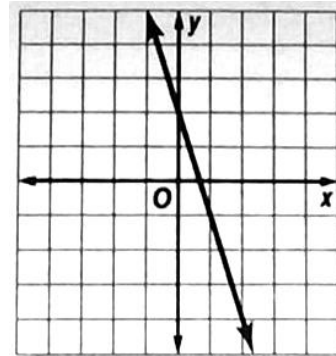**Write an equation for the line in <u>slope-intercept</u> form when:** (1 point)

15) the slope is $-\frac{1}{4}$ and the y-intercept is 2 $y = -\frac{1}{4}x + 2$

Write an equation for each line in <u>slope-intercept</u> form: (1 point)

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

17) $y = -3x + 2$

Solve each system of equations by substitution: (2 points)

18) $(7, -1)$
   $x - y = 8$
   $y = -1$

19) $(8, 16)$
   $4x - y = 16$
   $y = 2x$

20) **Infinitely many Solutions**
   $-3y - 3x = -9$
   $x + y = 3$

Solve each system of equations by elimination: (2 points)

21) $(-1, 6)$
   $-6x + y = 12$
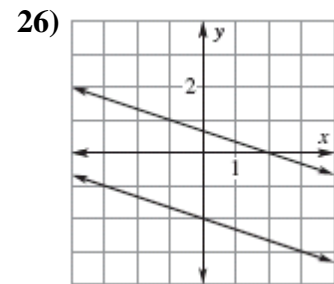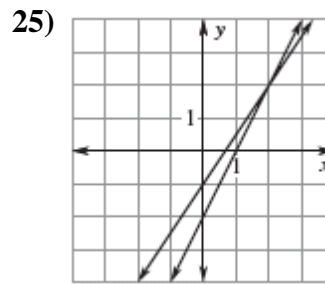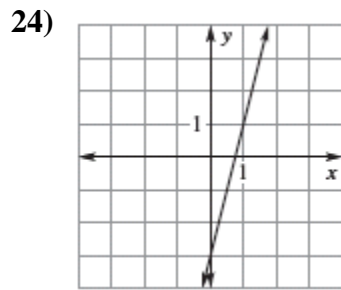 $-16x - y = -10$

22) $(-3, 2)$
   $-x + 2y = 7$
   $5x - 3y = -21$

23) **No Solution**
   $3x - 2y = 8$
   $-6x + 4y = 9$

Name _____ Date _____ Pd_____

24)

25)

26)

<mark>Infinitely many Solutions</mark>   <mark>1 Solution</mark>   <mark>No Solutions</mark>
<mark>Consistent and Dependent</mark>   <mark>Consistent and Independent</mark>   <mark>Inconsistent</mark>
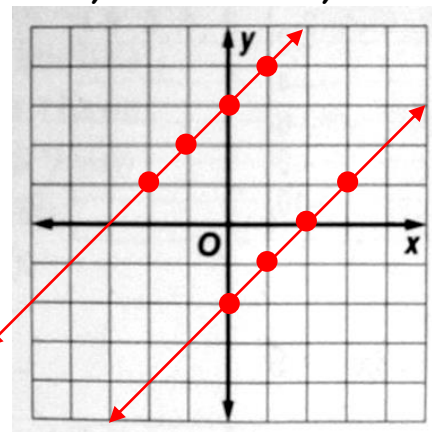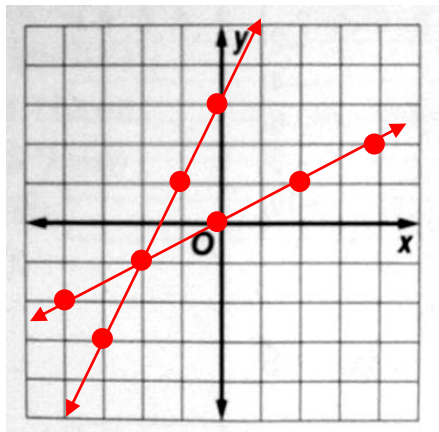
Graph the system of equations. (2 points)
State whether the system is parallel, intersecting, or coincides. (1 point)
Give the solution for the system. (1 point)

20) <mark>*intersecting*</mark> ; <mark>$(-2, -1)$</mark>
    $y = 2x + 3$; $\frac{1}{2}x = y$

21) <mark>*parallel*</mark> ; <mark>*no solution*</mark>
    $y = x + 3$; $y = x - 3$

Set up and solve the following systems of equations. Choose your choice of method

29) In one day, a movie theater collected $4600 from 800 people. The price of admission is $7 for an adult and $5 for a child. **How many adults and how many children were admitted to the movie theater that day?**

<mark>$x + y = 800$</mark>
<mark>$7x + 5y = 4,600$</mark>
<mark>**300 *adult and* 500 *children***</mark>

30) An adult ticket for a school play costs $3 more than a children's ticket. When 552 adult and 397 children's tickets were sold, the total revenue was $8,299. **Find the cost of an adult pass.**

<mark>$x = y + 3$</mark>
<mark>$552x + 397y = 8,299$</mark>
<mark>**$10 *adult tickets and* $7 *childrens tickets***</mark>

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