Name KEY Date

Chapter 5 Review

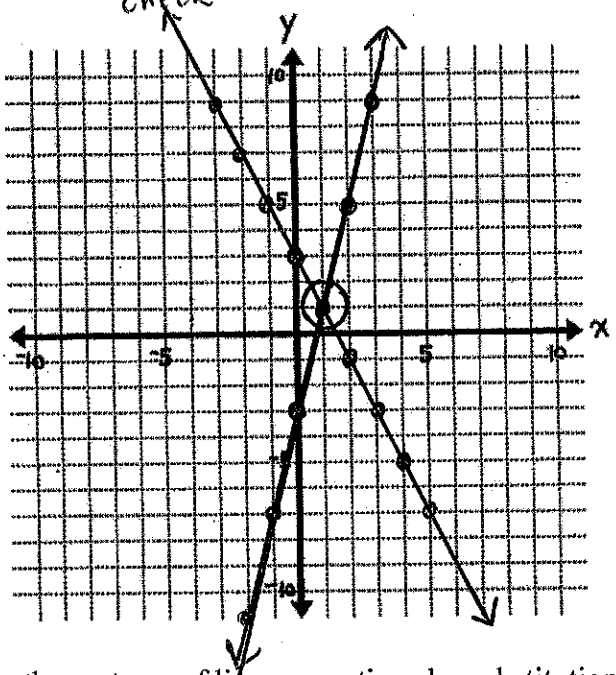
Solve the systems of linear equations by graphing.

1) $y = -2x + 3$
$y = 4x - 3$

(1, 1)

$1 = -2+3$ and $1 = 4-3$
$1 = 1$ ✓ $1 = 1$ ✓

check

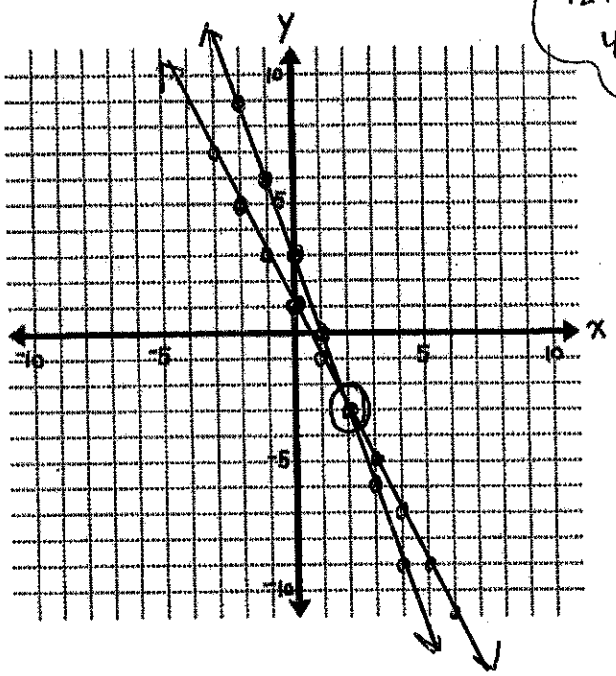


2) $3y = -9x + 9 \rightarrow y = -3x + 3$
$4y + 8x = 4$
$-8x \quad -8x$

$\frac{4y}{4} = \frac{-8x}{4} + \frac{4}{4} \rightarrow y = -2x + 1$

(2, -3)

$-9 = -18 + 9$
$-9 = -9$ ✓
and
~~[illegible]~~
$-12 + 16 = 4$
$4 = 4$ ✓
check



Solve the systems of linear equations by substitution.

3) $y = -3x - 7$
$y = x + 9$

(-4, 5)

$x + 9 = -3x - 7$
$+3x \quad +3x$

$4x + 9 = -7$
$-9 \quad -9$

$\frac{4x}{4} = \frac{-16}{4}$

$x = -4$

$y = -4 + 9$

$y = 5$

4) $x = y + 1$
$x + 3y = 13$

(4, 3)

$y + 1 + 3y = 13$

$4y + 1 = 13$
$-1 \quad -1$

$\frac{4y}{4} = \frac{12}{4}$

$y = 3$

$x = 3 + 1$

$x = 4$

5) $x+2y=-8$
$y=2x+16$

$(-8,0)$

$x+2(2x+16)=-8$
$x+4x+32=-8$
$5x+32=-8$
$-32\ \ -32$
$\frac{5x}{5}=\frac{-40}{5}$
$x=-8$
$y=2(-8)+16$
$y=6$

6) $-x+5y=28$
$x+3y=20 \rightarrow x=20-3y$

$(2,6)$

$-(20-3y)+5y=28$
$-20+3y+5y=28$
$8y-20=28$
$+20\ \ +20$
$\frac{8y}{8}=\frac{48}{8}$
$y=6$
$x=20-3(6)$
$x=2$

Solve the system of linear equations by elimination.

7) $x+4y=4$
$+\ -x+2y=8$

$(-4,2)$

$6y=12$
$\frac{6y}{6}=\frac{12}{6}$
$y=2$

$x+8=4$
$-8\ \ -8$
$x=-4$

8) $y=-9x+2 \rightarrow y=-9x+2$
$-1(y=-3x-4) \rightarrow -y=3x+4$

$(1,-7)$

$0=-6x+6$
$-6\qquad -6$
$\frac{-6}{-6}=\frac{-6x}{-6}$
$1=x$
$y=-9+2$
$y=-7$

9) $-10x+5y=30 \rightarrow -10x+5y=30$
$-5(-2x+2y=6) \rightarrow 10x-10y=-30$

$-5y=0$
$y=0$

$-2x+0=6$
$\frac{-2x}{-2}=\frac{6}{-2}$
$x=-3$

$(-3,0)$

10) $(3x+18y=12)$
$-3(2x+8y=6)$

$6x+36y=24$
$-6x-24y=-18$

$(1,\frac{1}{2})$

$\frac{12y}{12}=\frac{6}{12}$
$y=\frac{1}{2}$
$3x+9=12$
$-9\ \ -9$
$3x=3$
$x=1$

11) The table shows the purchases made by two customers at a meat counter. Determine from the table the amount that a slice of turkey and ham would cost.

	Sliced Turkey (pounds)	Sliced Ham (pounds)	Total Cost
Customer 1	4	1	$8
Customer 2	2	4	$11

Ham is $2 per pound and turkey is $1.50 per pound.

$4t+h=8$

$-2(2t+4h=11)$ $\longrightarrow$ $4t+h=8$, $-4t-8h=-22$

$\frac{-7h}{-7}=\frac{-14}{-7}$

$h=2$

$4t+2=8$

$-2\ -2$

$\frac{4t}{4}=\frac{6}{4}$

$t=3/2=1.5$

12) You and your friend are in line behind each other at Pizza My Heart. Your friend's family gets 2 slices of pizza and 3 salads for $22. Your family gets 3 slices of pizza and 2 salads for $20.50. How much is a slice of pizza? How much is a salad?

$3(2p+3s=22)$ $\longrightarrow$ $6p+9s=66$

$-2(3p+2s=20.5)$ $-6p-4s=-41$

$\frac{5s}{5}=\frac{25}{5}$

$s=5$

$2p+15=22$

$-15\ -15$

$\frac{2p}{2}=\frac{7}{2}$

$p=3.50$

Salads are $5 and pizza slices are $3.50 each

13) Money Bags has 27 dimes and nickels in his coin purse worth $2.30. How many nickels and dimes does he have?

$d+n=27$ $\longrightarrow$ $d=27-n$

$10d+5n=230$

$10(27-n)+5n=230$

$270-10n+5n=230$

$-5n+270=230$

$-270\ -270$

$\frac{-5n}{-5}=\frac{-40}{-5}$ $n=8$

$d=27-8$

$d=19$

19 dimes and 8 nickels

$19(10)+8(5)=230$

$190+40=230$

$230=230$ ✓