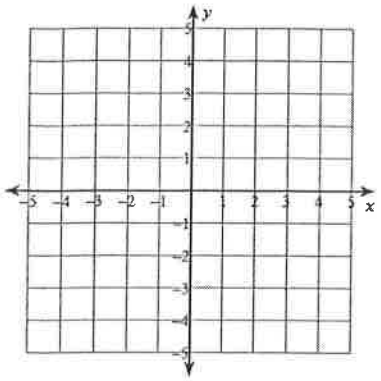
4.1-4.3 Review

Name _____

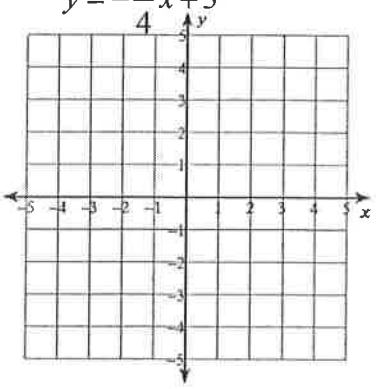
Solve each system by graphing.

1. $y = -x + 4$
$y = 7x - 4$



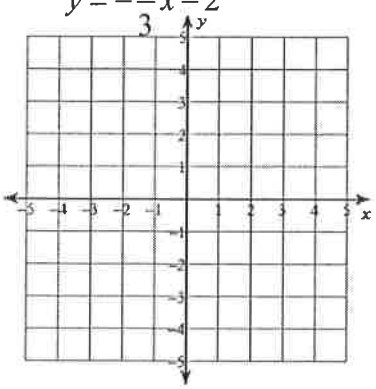
Solution _____

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



Solution _____

3. $y = \frac{5}{3}x + 4$
$y = -\frac{1}{3}x - 2$



Solution _____

Solve each system using <u>substitution.</u>

4. $x - 7y = -5$
$-2x + 14y = 5$

5. $3x - 7y = -5$
$y = 6x + 23$

6. $x - 2y = -6$
$-4x + 6y = 20$

7. An airplane is traveling along the line $x - y = -1$ when it sees another airplane traveling along the line $5x + 3y = 19$. If they continue along the same lines, at what point will their flight paths cross? (Use any method)

Solve each system using <u>elimination.</u>

8. $\begin{aligned} -3x+5y&=2 \\ 3x-y&=2 \end{aligned}$

9. $\begin{aligned} -10x-9y&=18 \\ 5x+10y&=-20 \end{aligned}$

10. $\begin{aligned} x-3y&=1 \\ -2x+6y&=2 \end{aligned}$

11. Beth is deciding between two phone plans. Verizon charges $15 per month plus 10 cents per text she sends. AT&T charges $20 per month but only charges 5 cents per text she sends.

a. Write a system of equations to represent the monthly cost of each plan.

b. Solve the system using any method you prefer.

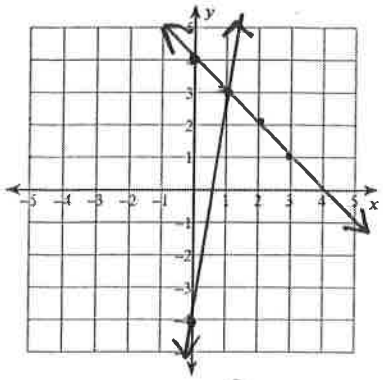
12. Paul and Heather are selling fruit for a school fundraiser. Customers can buy boxes of apples, and boxes of pears. Paul sold 10 boxes of apples and 9 boxes of pears for a total of $312. Heather sold 1 box of apples, and 3 boxes of pears for a total of $69. Find the cost of a box of apples, and a box of pears.

4.1-4.3 Review

Name Key

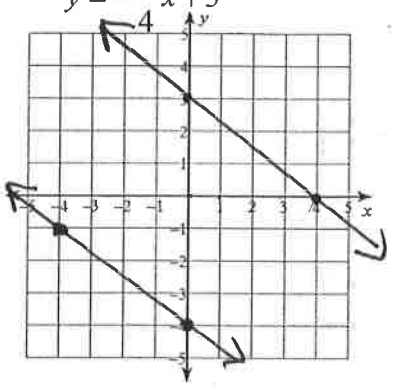
Solve each system by graphing.

1. $y = -x + 4$
$y = 7x - 4$



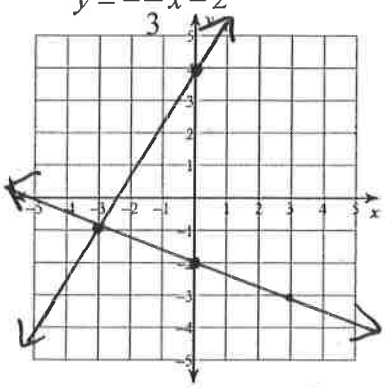
Solution (1,3)

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



Solution No Solution

3. $y = \frac{5}{3}x + 4$
$y = -\frac{1}{3}x - 2$



Solution (-3,-1)

Solve each system using <u>substitution.</u>

4. $x - 7y = -5 \Rightarrow x = 7y - 5$
$-2x + 14y = 5$

$-2(7y-5)+14y=5$

$-14y+10+14y=5$

$10=5$

↑

False

No Solution

5. $3x - 7y = -5$
$y = 6x + 23$

$3x-7(6x+23)=-5$

$3x-42x-161=-5$

$-39x=156$

$x=-4$

$y=6(-4)+23$

$y=-1$ (-4,-1)

6. $x - 2y = -6 \Rightarrow x = 2y - 6$
$-4x + 6y = 20$

$-4(2y-6)+6y=20$

$-8y+24+6y=20$

$-2y=-4$

$y=2$

$x=2(2)-6$

$x=-2$ (-2,2)

7. An airplane is traveling along the line $x - y = -1$ when it sees another airplane traveling along the line $5x + 3y = 19$. If they continue along the same lines, at what point will their flight paths cross? (Use any method)

$x-y=-1$

$x=y-1$

$5(y-1)+3y=19$

$5y-5+3y=19$

$8y=24$

$y=3$

$x=3-1$

$x=2$

(2,3)

Solve each system using elimination.

8. $-3x+5y=2$
$+\ 3x-y=2$

$4y=4$
$y=1$
$3x-1=2$
$3x=3$
$x=1$
$(1,1)$

9. $-10x-9y=18$
$(5x+10y=-20)2$

$-10x-9y=18$
$10x+20y=-40$

$11y=-22$
$y=-2$
$-10x-9(-2)=18$
$-10x=0$
$x=0$
$(0,-2)$

10. $(x-3y=1)2 = 2x-6y=2$
$-2x+6y=2$ $+\ -2x+6y=2$

$0=4$

No Solution

11. Beth is deciding between two phone plans. Verizon charges \$15 ~~per month~~ plus 10 cents per text she sends. AT&T charges \$20 ~~per month~~ but only charges 5 cents per text she sends. to join

a. Write a system of equations to represent the monthly cost of each plan. to join

Verizon $y=0.1x+15$
AT&T $y=0.05x+20$

b. Solve the system using any method you prefer.

$0.1x+15=0.05x+20$
$0.05x=5$
$x=100$

after 100 texts

12. Paul and Heather are selling fruit for a school fundraiser. Customers can buy boxes of apples, and boxes of pears. Paul sold 10 boxes of apples and 9 boxes of pears for a total of \$312. Heather sold 1 box of apples, and 3 boxes of pears for a total of \$69. Find the cost of a box of apples, and a box of pears.

$10a+9p=312$
$a+3p=69$
$a=69-3p$
$10(69-3p)+9p=312$
$690-30p+9p=312$
$-21p=-378$
$p=18$

$a=69-3(18)$
$a=15$

box of apples cost \$15 and box of pears cost \$18